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QUEENSLAND.

ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1952-53.

PRESENTED TO PARLIAMENT BY COMMAND

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1952-53.

The Honourable the Minister for Health and Home Affairs.

SIR,—I have the honour to submit for your information the annual report of the Health and Medical Services Branch of the Department of Health and Home Affairs during the year ended 30th June, 1953.

ABRAHAM FRYBERG,
M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.)
Director-General of Health and
Medical Services.

STAFF.

Dr. W. P. H. Parker retired as Medical Superintendent, Ipswich Mental Hospital, after a period of 24 years service with the Division of Mental Hygiene.

Dr. R. F. Condon resigned from the position of Medical Officer, School Health Services, to enter private practice.

Dr. E. Silberstern, Medical Superintendent of the Westwood Sanatorium, is visiting U.S.A., Canada, and the United Kingdom for post-graduate study in tuberculosis. He will visit tuberculosis institutions in these countries and on his return it is hoped that the Westwood Sanatorium will immediately be increased to seventy-five beds.

Miss D. Bardsley, Adviser in Nursing, proceeded overseas as representative of the Australian Nursing Federation to attend the International Congress of Nurses in Brazil. She will visit the United States of America, Canada, and England, where she will enquire particularly into the training of nurses.

Mr. C. M. Cato, Chief Inspector, Food and Drugs, retired after 42½ years service. He joined the Department in January, 1911, and was promoted to the chief inspector's position in July, 1934. During this long association with the Department he proved himself a loyal officer and by his kindly consideration endeared himself to all members of the staff. He earned the respect of members of the community with whom he was associated, and to him must go the credit for the happy relations which exist between the business community and the Department.

It is with regret I record the death of Mr. M. J. Guyder, who joined the Government Chemical Laboratory in April, 1937. Mr. Guyder worked in co-operation with the Director of Industrial Medicine and took part in investigations which have played an important role in the industrial life of Queensland.

INTRODUCTORY REMARKS.

Queensland was fortunate during the past year in receiving a visit from Sir Allen Daley, who had recently retired as Chief Medical Officer to the London County Council. Subsequent to his resignation he was invited to Baltimore, U.S.A., to advise on public health. Sir Allen is considered an outstanding authority, not only in public health but in health education and post-graduate medical teaching. He was particularly impressed with the work of the Queensland Institute of Medical Research, the Queensland Health Education Council, and the Division of Maternal and Child Welfare. He made suggestions in regard to the various sections of the Department, particularly School Health Services, in which he is especially interested.

At the present time lack of uniformity in the Food and Drug Regulations of the different States results in difficulties and misunderstandings in industry. To overcome this the Public Health Committee of the National Health and Medical Research Council, which consists of the Chief Medical Officers of each State, has held two meetings in an endeavour to find standards acceptable to all concerned. Queensland has been rightly proud of the purity of food and drugs available to the people of this State, and while we are prepared to co-operate to achieve uniformity, we are not prepared to do so at the cost of lowering the present standards.

Food additives have occupied much of the discussions. Food colours having alpha naphthol, beta naphthol, or aniline as a base are thought to be carcinogenic, and these are being deleted from the list of allowable additives. The Food and Drug Regulations of Queensland will be amended in this regard.

VITAL STATISTICS.

Vital statistics give an indication of the state of the public health and the infantile mortality is the best indication of this. The rate of 24.9 per 1,000 live births is lower than last year, but is only exceeded by that of Western Australia (25.9). The crude birth rate of 25.1 per 1,000 population is only exceeded by Western Australia (25.6).

The causes of deaths under the age of one year may be divided into inevitable and preventable, and of the latter, prematurity, as is seen in Table LXIX., is responsible for 187 deaths out of a total of 772. A number of these on examination would be found to be inevitable, but research must be directed to ascertaining how to overcome the causes of the remainder. Queensland can boast of the best maternal and child welfare service in Australia. In the last few years homes have been established in Ipswich, Toowoomba, and Rockhampton where these premature infants can be nursed. The explanation might be that Queensland and Western Australia have their population more scattered than in the closer-settled States, but every endeavour will be made to ascertain the cause of the high rate and to give the necessary service to reduce it.

The maternal mortality rate continues to decline, the rate of 1.03 per 1,000 live births being the lowest recorded in Queensland.

Disease of the cardio-vascular system was the most common cause of death, while malignant disease followed. The cure of both these diseases still baffles medical science.

Research by a Brisbane practitioner raised some hope for a chemical which would retard the growth of neoplasms. He treated an external growth with a well-known chemical and found the tumour retrogressed. He reported his findings and a committee consisting of Professor A. J. Canny, Professor of Pathology (Chairman), Dr. A. P. Murphy, physician, Dr. D. Yeates, surgeon, and Dr. A. Cooper, Director of the Queensland Radium Institute, was formed to treat different types of malignancies with this chemical. Unfortunately, the Committee found that the chemical failed to influence the progress of the disease.

SECTION OF COMMUNICABLE DISEASE CONTROL.

The number of accepted cases of poliomyelitis (242) was far higher than was expected, as it was thought the degree of infection present in the community during the epidemic, when 824 patients were notified in 1950-51 and 359 in 1951-52, would have produced an immunity of the whole population. It is interesting to note that the notifications for this year conformed to the accepted seasonal trend—that is, there was an increase in incidence in the warmer months, falling away with the onset of the cold weather.

It would appear from large field experiments in America that gamma globulin does give protection to a percentage of the people at risk. I still doubt its value as a public health measure in this State because the immunity conferred only lasts for six weeks, and that of the first and sixth weeks is only partial. In addition, there is little likelihood of sufficient gamma globulin being available.

Our hope in preventing poliomyelitis would appear to be the development of a vaccine capable of conferring protection against the three known viruses. Virus can now be grown in quantity by newly-discovered methods, and viruses of low virulence are now being used experimentally. Should these experiments be successful, a method will be available which will control poliomyelitis through preventive measures.

Notifications of infantile diarrhoea and bacillary dysentery are higher than last year. The Queensland Institute of Medical Research is still conducting research into this problem. The main method of spread is, like poliomyelitis, by "carriers" and it is doubtful if the condition will be controlled until a vaccine similar to that of typhoid fever is found. The disease can be reduced, however, by a high standard of hygiene.

The Queensland Institute of Medical Research is also co-operating with the Laboratory of Microbiology and Pathology, the Division of Industrial Medicine, and the Local Authorities of North Queensland in attempting to elucidate the unknown fevers of North Queensland. Patients who previously were labelled "Pyrexia of unknown origin" (P.U.O.) are now being correctly classified and work is now being carried out into the method of spread of the main diseases, leptospirosis, and scrub typhus.

Immunization campaigns against diphtheria by Local Authorities have been continued, with the result that up to 90 per cent. of children, and in some areas even more than this, have been immunized in infancy. The level of antibodies falls with age and unless a "booster" dose is given when a child commences school the titre might fall to a level where the amount of antibodies will not protect. This will explain the higher incidence of diphtheria in age groups above nine. Local Authorities, with the co-operation of the Queensland Health Education Council, are giving publicity to the necessity for a "booster" dose, and if parents will heed this advice the incidence of diphtheria in Queensland will be reduced to a very low figure.

In my report of last year, I commented on the condition of the drainage work which was undertaken by the Department of the Army, together with the American Army, and with the co-operation of the State Government and the Cairns City Council to control the epidemic of malaria in Cairns in 1942. I pointed out that temporary drains such as these are likely to become mosquito-breeding grounds. The Cairns City Council, with a subsidy from the State, has done excellent work in attempting to control this, but, with the silting up of the drains, maintenance costs have became prohibitive. Efforts have been made to have the Commonwealth contribute a more liberal amount than £18,000 to have the work made permanent, and it was hoped that the result of a further meeting held last September would mean an increase in this amount towards the present cost of £138,440. Unfortunately, the Commonwealth cannot see its way clear to increase its contribution.

I find this difficult to understand, particularly as Sir Earle Page, the present Commonwealth Minister for Health, in a report to the late Right Honourable John Curtin, M.H.R., on the subject of malaria control in relation to the Cairns epidemic of 1942 recommended that complete drainage should be undertaken, covering all swamps in the Cairns area capable of breeding the Anopheles mosquito, as this would eradicate the one endemic focus of malaria in Australia.

The Commonwealth Government accepted responsibility in the national interest for carrying out the work, which was of a temporary nature because of the urgency of the situation. But it is only right that when opportunity offered, the Commonwealth Government should complete the work so that it would not be a danger to the people of and visitors to Cairns. I find it hard to understand, while millions of pounds are being spent on curative medicine, that the Commonwealth will not accept its responsibility with the State and Cairns City Council in undertaking a preventive medicine measure which is necessary as the result of its own actions.

In a Melbourne interview on 18th December, 1952, Sir Neil Fairley, a world authority on malaria, who was the officer responsible for the control of malaria in the A.I.F. during the last war, was reported to have stated—

> ''Sir Neil Fairley was disappointed that drainage work in the Cairns area, instituted in 1943 by the Australian and American armies and the municipal authorities, had not been continued because of lack of funds. It was a continual anxiety to Dr. A. Fryberg, Director-General of Medical Services in Queensland, and was a matter of national importance to Australia, because Cairns was both an assembly area for troops going to the tropics, and the only malaria focus in the Commonwealth. It could be free from malaria, and funds should be available to make it so.''

Hansen's Disease.

It has been approved overseas that, with sulphone drugs, it takes an average of four years' treatment before smears of patients suffering from this condition become consistently negative. Sulphone treatment was commenced at Peel Island towards the end of 1947, and at Fantome Island a short time later. Since then, other newly discovered drugs have been used, but sulphones remain the drugs of choice. I am pleased to report that out of a population of 44 patients at Peel Island, 21 were discharged during the year, while at Fantome Island 16 patients were discharged out of a total population of 77.

The whole outlook of patients suffering from Hansen's disease has now altered, as it is realised that, generally speaking, they will not be segregated for ever. The public, however, still fail to understand that Hansen's disease is a communicable disease no different from other communicable diseases, and health education must be continued towards this end.

Division of Industrial Medicine.

The services of this Division are freely utilised by employer and employee. When it was first established in August, 1946, lead posioning was a real hazard in various trades, but as a result of the advice given to industry the number of employees who now suffer from this condition has been greatly reduced.

The Director co-operates with the Chest Clinic in relation to chest conditions in industry, and has arranged with the Director of Tuberculosis to x-ray industrial groups, particularly foundry workers, when the mobile X-ray machine is ready for use.

Inspectors of this Division carry out investigations of patients who have suffered from fevers in North Queensland, this being an important part of the research being carried out by the Queensland Institute of Medical Research.

Division of School Health Services.

Dr. P. R. Patrick, Chief Medical Officer, School Health Services, visited England and America to study school health services in those countries. In Queensland difficulty has been experienced in attracting medical officers to this service, with the result that the work has been executed by trained nurses. Dr. Patrick reports that this is the practice overseas, with medical officers supervising the work of the nurses and carrying out examinations when requested.

Ophthalmic officers report that trachoma still continues to be mild. Dr. E. O. Marks will visit far western Queensland to carry out a survey in those areas not usually visited by a doctor.

Last year I mentioned that there was a difference of opinion regarding fluoridation of water for the prevention of dental caries. Discussions have taken place between departmental officers, Professor S. F. Lumb, Professor of Dentistry, and Dr. B. Kruger, of the Department of Dentistry, and Professor W. V. Macfarlane, of the Department of Physiology. Professor Macfarlane will visit Bundaberg later in the year to investigate the amount of fluid consumed by all sections of the community under working conditions. This is necessary as a first step as the recommended standard of one part per million of fluorine will be excessive in Queensland because of climatic conditions.

Division of Laboratory Services.

Laboratory of Microbiology and Pathology.

The work being carried out by this laboratory continues to expand both in quantity and procedures, and has now reached the stage where the activities are limited by accommodation. The laboratory for the diagnosis of tuberculosis was open in September and is the most up-to-date in the Commonwealth, both in regard to design and equipment.

Co-operation with the Queensland Institute of Medical Research continues with reference to the serological work connected with the unknown fevers of North Queensland. Because of the work done in relation to leptospirosis the laboratory has established itself as a laboratory to which doctors in Queensland, other States of Australia, and New Zealand can refer sera for identification for this condition, as well as for ''Q'' fever—a condition first recognised in this laboratory as a clinical entity—and the typhus group of fevers.

Government Chemical Laboratory.

The number of samples examined in the past year is a record since the laboratory was established. This has caused accommodation difficulties. Prior to the tobacco sales it was noted that tobacco in North Queensland contained excessive quantities of arsenic. This was brought about by ignorance on the part of the farmers in the control of "looper," which had been particularly troublesome, and excessive amounts of arsenical spray were used. A laboratory was established at Mareeba and tests were carried out by officers of the Government Chemical Laboratory and the Department of Agriculture and Stock, working in conjunction with a departmental health inspector. Tobacco leaf containing excessive amounts of arsenic was withdrawn from sales. Tests carried out before the recent sales indicate that the education carried out by field officers of the Department of Agriculture and Stock has had the effect of reducing the amount of arsenic found in the new season's leaf.

VITAL STATISTICS.

Population.—The estimated population of Queensland at 31st December, 1952, was 1,247,890, an increase of 28,284 (or 2·3 per cent.) for the year. The estimated population living in the Greater Brisbane Area was 469,000, an increase of 15,340 (or 3·4 per cent.) during 1952. These figures can be regarded as satisfactory, because a greater increase in population, particularly in the Greater Brisbane Area would throw a heavy load on the provision of housing and amenities such as roads, drainage, electricity, and water. The population density per square mile is 1.86 persons for the whole of Queensland, 1,218 persons in the Greater Brisbane Area and 1·16 persons for the rest of the State. Since 37·6 per cent. of the population of the State resides in the Metropolitan Area, it can readily be seen that there is abundant room for population growth in the rest of the State.

Births.—During 1952 births registered in Queensland totalled 30,953, an increase of 1,301 over the previous year, and the highest number on record. The crude birth rate was 25.1 compared with 24·6 in 1951. The births comprise 15,915 males and 15,038 females, giving a masculinity rate of 105·8, which has been the rate approximately in this State for many years.

TABLE I.

CRUDE BIRTH RATE (PER 1,000 POPULATION).

——	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.
Commonwealth of Australia	26·7	25·5	18·8	18·0	23·1	22·9	23·3	22·9	23·3
Queensland	**27·3**	**27·2**	**20·8**	**19·9**	**24·7**	**24·2**	**24·6**	**24·6**	**25·1**
New South Wales	27·8	26·1	20·6	17·8	22·2	22·1	22·2	21·7	21·9
Victoria	24·5	23·9	18·5	16·8	22·1	21·9	22·6	22·3	23·0
South Australia	26·5	24·7	17·4	16·7	24·1	23·8	24·7	24·3	24·2
Western Australia	28·0	24·7	21·4	19·4	25·1	25·4	25·5	25·4	25·6
Tasmania	29·2	27·3	21·7	20·8	26·4	26·1	25·7	25·1	26·0
New Zealand	26·2	25·1	18·8	21·2	25·5	24·9	24·6	24·4	24·8
United Kingdom	25·0	25·4	16·8	14·6	18·1	17·0	16·1	15·9	15·7
United States of America	n	23·7	18·9	17·9	24·1	24·0	23·4	24·3	24·6
Canada	n	29·4	23·9	21·5	27·0	26·9	26·5	27·1	27·4

n Not available.

The natural increase (excess of births over deaths) was 19,782, being equal to an increase of 1·6 per cent. of the population.

Deaths.—For the year 1952 deaths from all causes totalled 11,171, giving a crude death rate (deaths per 1,000 mean population) of 9·0, which is lower than the previous year, and still below the crude death rate of the Commonwealth of Australia. Table II. compares the crude death rates of Queensland, other States, and certain overseas countries since 1910.

TABLE II.

CRUDE DEATH RATE (PER 1,000 POPULATION).

——	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.
Commonwealth of Australia	10·4	10·5	8·6	9·7	10·0	9·5	9·6	9·7	9·4
Queensland	**9·7**	**10·7**	**8·2**	**9·0**	**9·3**	**8·9**	**8·8**	**9·2**	**9·0**
New South Wales	9·9	10·1	8·4	9·4	10·0	9·4	9·6	9·6	9·4
Victoria	11·5	11·1	8·9	10·7	10·4	10·3	10·1	10·3	10·0
South Australia	10·1	10·4	8·5	9.5	10·3	9·5	9·6	10·0	9·5
Western Australia	10·1	10·3	8·8	9·5	9·1	9·0	9·1	9·1	8·7
Tasmania	11·1	9·7	9·8	9·9	9·6	8·8	8·7	8·8	8·5
New Zealand	9·7	10·2	8·6	9·2	9·1	9·1	9·3	9·6	9·3
United Kingdom	14·0	12·9	11·7	14·0	10·9	11·7	11·7	12·6	11·4
United States of America	15·0	13·1	11·3	10·7	9·9	9·7	9·6	9·7	9·6
Canada	n	13·7	10·7	9·8	9·3	9·2	9·0	9·0	8·6

n Not available.

The causes of death to residents of Queensland during 1952 are shown in Table III.

TABLE III.
SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1952.

Causes of Death.	Males.	Females.	Total.
Tuberculosis of Respiratory System	162	40	202
Tuberculosis, other	8	6	14
Diphtheria	3	4	7
Whooping Cough	..	1	1
Tetanus	21	5	26
Acute Poliomyelitis	12	9	21
Measles	1	4	5
Other Infectious and Parasitic Diseases	55	51	106
Malignant Neoplasms	843	632	1,475
Neoplasms, Benign and Unspecified	36	25	61
Hay Fever and Asthma	43	21	64
Diabetes Mellitus	49	87	136
Other Allergic, Endocrine System, Metabolic and Nutritional Diseases	20	20	40
Pernicious and other Hyperchromic Anaemias	8	15	23
Other Diseases of the Blood and Blood-forming Organs	15	25	40
Mental, Psychoneurotic and Personality Disorders	60	25	85
Vascular Lesions affecting the Central Nervous System	639	713	1,352
Other Diseases of the Nervous System and Sense Organs	109	88	197
Diseases of the Heart	1,783	1,001	2,784
Hypertensive Disease	301	335	636
Other Diseases of Circulatory System	116	102	218
Influenza	19	17	36
Lobar Pneumonia	68	40	108
Bronchopneumonia	125	90	215
Other and unspecified Pneumonia	37	22	59
Bronchitis	91	36	127
Other Diseases of Respiratory System	99	54	153
Diseases of Stomach and Duodenum	86	20	106
Appendicitis	24	7	31
Diseases of Liver, Gallbladder and Pancreas	78	77	155
Other Diseases of Digestive System	115	102	217
Nephritis and Nephrosis	164	155	319
Diseases of Male Genital Organs	126	..	126
Other Diseases of Genito-Urinary System	50	47	97
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium	..	32	32
Diseases of the Skin and Cellular Tissue	10	12	22
Diseases of the Bones and Organs of Movement	12	18	30
Congenital Malformations	75	89	164
Intra-cranial and Spinal Injury at Birth	38	27	65
Other Birth Injury	30	18	48
Post-Natal Asphyxia and Atelectasis	50	31	81
Infections of Newborn	14	14	28
Immaturity Unqualified	109	78	187
Other Diseases Peculiar to Early Infancy	46	31	77
Senility without mention of Psychosis	88	101	189
Symptoms Referable to Systems or Organs	9	7	16
Ill-defined and Unknown Causes	17	13	30
Motor Vehicle Traffic Accidents	231	44	275
Accidental Falls	67	94	161
Accidental Drowning and Submersion	46	13	59
Other Accidents	238	55	293
Suicide and Self-Inflicted Injury	122	26	148
Homicide and Injury Purposely Inflicted by Other Persons	20	4	24
Total from All Causes	6,588	4,583	11,171

Diseases of the heart, hypertension, and vascular lesions affecting the nervous system, which are largely due to degenerative changes in the blood vessels, caused 4,772 deaths or 42·7 per cent. of all deaths during the year.

As communicable diseases have declined there has been a spectacular increase in deaths from the above causes, and these have created a major hazard to life and to health, which cannot be ignored. Much work has been done and is being done to determine the causes of arteriosclerosis and similar diseases of the blood vessels. In the Western World with a high standard of living, 2 out of every 3 men over the age of 50 years have definite diseases of the coronary arteries. Professional men are particularly liable to develop arteriosclerosis. Women are less prone to arteriosclerosis than are men, and during periods of national starvation and in countries with a permanently low fat content in the national dietary, the incidence of arteriosclerosis is low. It is fair to say that we do not know how it is caused, how it can be prevented or even how it can be diagnosed at a reasonably early stage. This is a field for medical research of the future and the successful solution of the problem of arteriosclerosis will affect the lives and the earning capacity of the future population.

Deaths from tuberculosis (all forms) fell from 226 in 1951 to 216 last year and deaths from diphtheria decreased from 12 to 7. On the other hand deaths from tetanus increased from 14 in 1951 to 26 in 1952. Deaths from poliomyelitis totalled 26 compared with 100 in 1951, the peak year of the present outbreak.

Deaths from motor vehicle accidents increased from 267 in 1951 to 275. Accidental deaths of all kinds totalled 788, or 6·7 per cent. of all deaths. It cannot be stated too often that the majority of accidents and hence accidental deaths are entirely preventable. The National Safety Council of Australia is very active in preventing motor vehicle traffic accidents, but accidents in the home receive little or no attention. American experience shows that accidents in the home have increased and now constitute a major threat to the limbs and lives of the population. In the United States every year 28,000 people die and 100,000 people are permanently crippled or disabled following accidents in the home. In Great Britain, fatal home accidents approximate 10,000 annually. We have no information about home accidents in Queensland, but in America the most frequent causes have been shown to be:—

(1) Falls.—These constitute about 50 per cent. of the total accidents and include falls down steps, off chairs and beds, out of windows or as a result of walking on slippery floors.

(2) Inadequate maintenance of household structures and appliances.—These include the hand-railing that is not repaired when it becomes dangerous, steps that have become slippery and unsafe, and worn or faulty electric cords, points and appliances.

(3) Miscellaneous Causes.—Fire, coal gas, or poisons left in the reach of children.

(4) Injuries in the garden, garage, and workshop.

(5) In all the above causes, poor judgment, ignorance, fatigue or just idle curiosity are major factors in determining whether or why an accident occurred.

The home accident is now a major cause of death and crippling in children and the annual decline in deaths from infectious diseases is not matched by a corresponding decline in accidents. As a State we should be more concerned than we appear to be at present in the prevention of accidents of all kinds.

Marriages.—Registration of marriages during the year totalled 10,056 compared with 10,814 in 1951. The marriage rate was 8·1 per thousand mean population compared with 9·0 in 1951. Marriages of minors during the year totalled 3,912 of whom 681 were males and 3,231 females.

Infantile Mortality.—The infantile mortality rate of Queensland, other States and certain overseas countries is shown in Table IV., while Table V. is a composite one showing the birth rates, infantile mortality, and reproduction rates of Queensland compared with the Commonwealth of Australia.

TABLE IV.

INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS).

——	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.
Commonwealth of Australia ..	74·8	69·1	47·2	38·4	27·8	25·3	24·5	25·2	23·5
Queensland	**62·9**	**63·2**	**40·0**	**35·3**	**28·0**	**24·7**	**24·8**	**25·7**	**24·9**
New South Wales	74·7	69·4	49·8	39·0	30·3	27·3	27·1	26·3	24·5
Victoria	76·9	73·7	46·6	39·5	23·9	21·9	20·1	22·6	22·3
South Australia	70·2	67·3	48·4	35·5	29·7	27·7	24·0	24·5	23·1
Western Australia	78·2	66·0	46·7	44·2	25·6	26·4	27·1	28·7	25·4
Tasmania..	101·7	65·5	50·6	35·2	27·7	23·9	23·8	26·6	21·7
New Zealand	67·7	50·6	34·5	30·2	21·9	23·7	23·0	22·8	21·8
United Kingdom	105·0	82·0	63·0	61·0	36·0	34·0	31·0	31·0	29·0
United States of America ..	n	85·8	64·6	47·0	32·0	31·0	29·0	29·0	29·0
Canada	n	n	89·3	56·4	44·0	43·0	41·0	38·0	n

n Not available.

TABLE V.

BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA.

——	Crude Birth Rate.		Infant Mortality Rate.		Maternal Mortality Rate. (1)		Gross Reproduction Rate. (2)		Net Reproduction Rate. (3)	
	Queensland.	Australia.	**Queensland.**	Australia.	**Queensland.**	Australia.	**Queensland.**	Australia.	**Queensland.**	Australia.
1901	**28·5**	27·2	**101·9**	103·6	**4·15a**	3·77a	n	1·74	n	1·39
1911	**27·6**	27·2	**65·4**	68·5	**5·77**	5·03	n	1·71	n	1·42
1921	**26·7**	25·0	**54·1**	65·7	**5·31**	4·72	n	1·51	n	1·31
1931	**19·3**	18·2	**36·6**	42·1	**5·07**	5·49	n	1·14	n	1·03
1934	**18·2**	16·4	**40·6**	43·6	**4·61**	5·76	n	1·03	n	0·94
1939	**20·0**	17·7	**35·5**	38·2	**5·21**	4·09	**1·28**	1·08	**1·16**	1·00
1940	**19·9**	18·0	**35·3**	38·4	**4·70**	4·08	**1·25**	1·10	**1·15**	1·02
1941	**20·8**	18·9	**39·1**	39·7	**4·28**	3·64	**1·30**	1·15	**1·19**	1·07
1942	**20·4**	19·1	**34·8**	39·5	**3·97**	3·59	**1·26**	1·16	**1·16**	1·07
1943	**22·2**	20·7	**37·8**	36·3	**3·83**	3·33	**1·39**	1·26	**1·25**	1·16
1944	**23·1**	21·0	**31·3**	31·3	**3·02**	2·85	**1·45**	1·29	**1·32**	1·20
1945	**24·8**	21·8	**29·8**	29·4	**2·47**	2·15	**1·53**	1·34	**1·39**	1·24
1946	**24·8**	23·7	**29·3**	29·0	**2·26**	1·85	**1·55**	1·46	**1·42**	1·33
1947	**25·7**	24·1	**30·8**	28·5	**1·62**	1·87	**1·64**	1·49	**1·54**	1·36
1948	**24·7**	23·1	**28·0**	27·8	**1·47**	1·40	**1·60**	1·45	**1·51**	1·33
1949	**24·2**	22·9	**24·7**	25·3	**1·44**	1·21	**1·57**	1·46	**1·49**	1·33
1950	**24·6**	23·3	**24·8**	24·5	**1·45**	1·09	**1·61**	1·49	**1·52**	1·42
1951	**24·6**	22·9	**25·7**	25·2	**1·18**	1·05	**1·64**	1·49	**1·55**	1·21
1952	**25·1**	23·3	**24·9**	23·8	**1·03**	0·94	**1·69**	n	**1·59**	n

a Figures for 1901 not available. Figures shown are for 1902.
n Not available.

(1) *Maternal Mortality Rate.*—Deaths from puerperal causes per 1,000 live births.

(2) *Gross Reproduction Rate.*—Represents the number of female children who would be born on the average to women living right through the child bearing years, if the conditions on which the rate is based continue.

(3) *Net Reproduction Rate.*—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

The infantile mortality rate decreased slightly from 25·7 in 1951 to 24·9 in 1952. The improvement is due mainly to a decline in the number of deaths of infants from gastro enteritis and pneumonia.

The net reproduction rate is higher than the Australian average whilst the maternal mortality rate declined from 4·15 in 1901 to 1·03 in 1952.

If the crude death rate had remained at the level prevailing in 1900, almost 3,500 additional deaths would have occurred in Queensland during 1952. In addition the expectation of life has been increased by fifteen years during that period.

The enjoyment of the highest attainable standard of health is one of the fundamental rights of man. Although the value of human health cannot be measured in terms of money, it should be remembered that a child is an economic liability until he starts to earn. Usually his upkeep to that time can be estimated to cost, on an average, about four times the annual basic wage—or about £2,000 in Australia. If he dies before he starts to earn money, the community is the poorer by the amount spent on his upbringing and education. If he dies at 40, the community has gained. If he dies at 65, the net gain is twice as great. The lives saved in the last fifty years represent an immense economic benefit to this State.

However, disease does not only kill. It cripples—temporarily or permanently. Social services, such as pensions and hospitals, cost the people of this State a vast sum each year. To keep a patient in a public hospital is as costly as to pay for his stay in a luxury hotel. This is not the only loss to the community, because the sick person ceases to work and to earn income. For these reasons, apart from the humanitarian and moral one, there is unassailable justification for preventive medicine. It has proved its value in the infectious diseases, other than poliomyelitis (and even this disease shows every indication of being amenable to control in the near future). Crippling and fatal accidents must be given more positive attention, whilst the reduction of mental sickness by even one-quarter will pay rich dividends. Every step taken to prevent disease will not only prolong life and diminish sickness—it will increase productivity and human happiness.

In the seventeenth century John Donne said, "No man is an island entirely of itself. Each of us is a piece of the continent—a part of the main. . . . . Every man's death diminishes me because I am involved in mankind. Therefore send not out to know for whom the bell tolls: it tolls for thee."

Donne's remarks about the death of an individual affecting the whole community apply with equal force these days to disability and disease. It is unrealistic and selfish to expect governments to prevent disease and death—the community has an even more important part to play in prevention. Every person who observes the fundamental rules of health and hygiene, now taught in nearly every school, makes a positive contribution to community wellbeing. Conversely, the person who spits, sneezes and coughs indiscriminately, the person who does not wash his hands after visiting the toilet, the reckless and careless road user, the teacher or parent who creates or fosters a personality defect in a child, the mother who will not give her children the benefits of immunization, and other persons who commit similar acts, are each performing a disservice to preventive medicine and to the community in which they live.

SECTION OF PUBLIC HEALTH SUPERVISION.

Deputy Director-General of Health and Medical Services: D. W. Johnson, M.B., B.S. (Syd.), D.T.M. & H. (Syd.).
Chief Inspector of Food and Drugs: C. M. Cato.
Chief Sanitary Inspector: W. D. Pryor.
Secretary to Director-General of Health and Medical Services: T. O'Shea, M.R.San.I.
Welfare Officer: Mrs. V. Wills.

Inspectors in charge of District Offices:
Cairns: B. M. Keeffe
Rockhampton: R. Woodley
Townsville: H. P. Lowes
Toowoomba: C. J. Murray
Mackay: R. A. Burke

SECTION OF COMMUNICABLE DISEASE CONTROL.

Tables VI. and VII. show the incidence of notifiable diseases in the metropolitan and extra metropolitan areas respectively for 1952-53, while Table VIII. shows the same information for the calendar year 1952.

TABLE VI.

Communicable Diseases (exclusive of Venereal Diseases) 1st July, 1952, to 30th June, 1953.
Metropolitan Area (Population at 31st December, 1952—469,000).

Diseases.	Months.												Total 1952-1953.
	1952.						1953.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	..	3	31	6	29	..	..	1	..	..	..	..	70
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	26	24	29	59	45	68	28	28	37	33	23	35	435
Diphtheria	14	12	3	20	2	4	3	2	13	8	7	8	96
Dysentery, Amoebic	..	..	1	..	..	..	..	..	..	..	..	..	1
Dysentory, Bacillary	23	16	6	10	6	10	1	3	..	2	11	2	90
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..
Erythema Nodosa ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ..	..	..	1	..	..	..	..	..	..	..	1	..	2
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis (Weil's Disease, Parawoil's Disease, Seven-day Fever)	3	1	..	..	..	..	..	..	..	3	..	1	8
Malaria	5	1	1	..	1	1	..	..	1	1	..	..	11
Meningitis, Cerebrospinal	1	3	3	3	1	..	..	3	2	1	..	3	20
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleural Effusion	..	1	1	..	..	1	1	..	..	..	..	..	4
Poliomyelitis, Acute Anterior	1	6	1	1	1	8	7	6	9	8	5	5	58
Puerperal Fever ..	..	..	..	..	..	..	..	..	..	..	..	1	1
Puerporal Pyrexia ..	..	..	1	2	2	1	..	..	..	5	3	6	20
Q Fever	1	5	4	2	3	1	2	3	..	2	..	1	24
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rubella	1	..	..	4	4	3	1	..	..	..	..	..	13
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina	100	26	35	25	9	21	5	3	5	6	2	5	242
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	44	17	47	39	41	62	33	42	59	41	33	36	494
Tetanus	..	2	..	1	2	..	1	..	2	2	1	1	12
Typhoid Fever (including Paratyphoid Fevers) ..	1	..	..	..	..	..	..	2	..	1	..	..	4
Typhus Fever (Scrub, Tick, Murine) ..	1	1	..	1	..	..	1	1	..	..	..	..	5
Undulant (Malta) Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	221	118	164	173	146	180	83	94	128	113	86	104	1,610

TABLE VII.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1952, TO 30TH JUNE, 1953.
EXTRA-METROPOLITAN AREA (POPULATION AT 31ST DECEMBER, 1952—778,890).

Diseases.	Months.												Total 1952–1953.
	1952.						1953.						
	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	..	4	20	12	..	..	..	4	..	1	17	20	78
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	7	1	2	2	8	7	9	7	9	6	14	7	79
Diphtheria	4	10	13	8	5	15	16	5	6	10	10	13	115
Dysentery, Amoebic	..	..	..	..	3	1	..	1	2	..	..	..	7
Dysentery, Bacillary	1	3	1	2	..	..	..	4	4	..	..	1	16
Encephalitis Lethargica	1	1	..	..	..	..	..	..	..	..	..	..	2
Erythema Nodosa ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ..	..	1	1	..	..	..	..	2	4	1	..	..	9
Leprosy	..	..	1	2	..	..	1	..	..	..	..	1	5
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever)	3	5	7	3	7	3	2	14	19	14	18	9	104
Malaria	11	..	..	..	..	1	2	1	..	4	..	..	19
Meningitis, Cerebro-spinal	3	3	2	5	..	1	1	2	1	2	2	1	23
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleural Effusion ..	..	..	1	1	..	..	..	..	..	..	..	..	2
Poliomyelitis, Acute Anterior	4	3	4	4	11	17	31	15	35	35	19	6	184
Puerperal Fever ..	1	1	1	1	1	..	..	..	..	..	1	..	6
Puerperal Pyrexia ..	1	..	1	..	2	..	5	..	3	..	..	..	12
Q Fever	..	4	1	3	3	1	..	1	2	..	1	..	16
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rubella	..	..	..	3	1	..	..	..	1	..	..	..	5
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina	10	13	13	11	7	5	9	2	9	6	1	6	92
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	34	4	50	28	6	67	37	65	53	40	29	36	449
Tetanus	2	1	2	..	4	2	..	1	1	3	2	3	21
Typhoid Fever (including Paratyphoid Fevers)	1	1	..	..	1	1	2	5	..	1	..	1	13
Typhus Fever—													
Scrub	2	4	2	5	3	1	1	..	..	1	1	1	21
Murine	..	..	..	..	..	..	1	..	..	1	3	..	5
Tick	..	..	..	..	..	..	4	..	..	..	..	..	4
Undulant (Malta) Fever	..	1	..	..	..	..	..	..	..	..	..	..	1
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	85	60	122	90	62	122	121	129	149	125	118	105	1,288

TABLE VIII.

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASES), SECTION 29 OF "THE HEALTH ACTS, 1937–1949," DURING THE CALENDAR YEAR 1952.

Disease.	Cases Reported on Prescribed Form.			
	Metropolis.	Outside Areas.	Total Whole State, 1952.	Total Whole State, 1951.
Anchylostomiasis	70	57	127	47
Anthrax	..	..	..	..
Bilharziasis	..	..	..	..
Coastal Fever	..	..	..	3
Cholera	..	..	..	..
Diphtheria	114	104	218	136
Diarrhoea (Infantile)	375	68	443	298
Dysentery, Amoebic	1	6	7	1
Dysentery, Bacillary	248	30	278	144
Encephalitis Lethargica	..	2	2	6
Erythema Nodosa	..	..	..	..
Filariasis	..	..	..	2
Lead Poisoning	1	3	4	2
Leprosy	1	4	5	2
Leptospirosis (including Weil's Disease, Paraweil's Disease, Seven-day Fever)	8	68	76	87
Malaria	12	15	27	28
Meningitis, Cerebro-spinal	12	25	37	35
Mossman Fever	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..
Pleural Effusion	4	2	6	..
Poliomyelitis, Acute Anterior	65	100	165	991
Puerperal Fever	..	9	9	6
Puerperal Pyrexia	10	13	23	13
Q Fever	18	16	34	..
Relapsing Fever	..	..	..	..
Rubella	14	4	18	12
Sarina Fever	..	..	..	..
Scarlet Fever or Scarlatina	278	94	372	256
Smallpox (including Amaas or Alastrim)	..	..	..	..
Tetanus	15	25	40	22
Tuberculosis (all forms)	435	397	832	698
Typhoid Fever (including Paratyphoid Fevers)	6	9	15	10
Typhus Fever (including Rural and Urban Forms, and Japanese River Fevers)	10	45	55	51
Undulant (Malta) Fever	2	9	11	7
Yellow Fever	..	..	..	..
Totals	1,699	1,105	2,804	2,857

In the past, attention has been directed to the decline in communicable diseases such as scarlet fever, and tuberculosis, and readers of medical history must be impressed with their diminished virulence, and with the dissimilarity between these diseases a century ago and now. Various factors have been claimed as the cause of the lower incidence and death rate from tuberculosis and scarlet fever, but not enough attention has been directed to the natural rise and fall of a particular disease in a community. Acquired resistance of the human body is built up by constant exposure to the agent of a communicable disease, and the infecting organism itself appears to undergo changes that make it less invasive and less virulent. A peak is reached in the cycle, and thereafter the disease wanes in severity until sometimes it seems to disappear altogether from an area. Another disease rises to take its place, for it seems the fate of the human race never to be completely healthy. Some of the communicable diseases notified during the year are the subject of comment hereunder.

Anchylostomiasis.—Notifications increased from 35 in 1951-52 to 148 in 1952-53. This increase was due solely to special efforts in diagnosis and control.

Notifications from country districts are nearly all aboriginals, though a few infestations in returned servicemen are still being diagnosed. Although notified cases from the country numbered 70, it will be noted in the report of the Section of Hookworm Control that 701 cases of hookworm infestation were diagnosed and treated during the year. Special surveys were made on three Mission Stations (Yarrabah, Mona Mona and Lockhart River—all in North Queensland), and in addition 2,594 children in schools from Innisfail to Mossman were examined, of whom 57 (or 2·2 per cent.) were found to harbour hookworms. Although it is clear that aboriginals with their primitive standards of hygiene are the principal hosts of hookworm in Queensland the disease can readily spread to the white population in the coastal region of North Queensland. The small staff of the Hookworm Control Centre in Cairns is doing important work in supervising the domestic sanitation in this region, in diagnosing infestation and in providing facilities for treatment. The value of this unit and also the improvement in sanitation is seen by comparison with the findings of the Australian Hookworm Campaign (1919-1924) which reported an incidence of 26 per cent. of hookworm hosts in the Innisfail district and of 27 per cent. in the Douglas Shire.

Infantile diarrhoea and bacillary dysentery.—Notifications of these allied diseases increased slightly from 603 in 1951-52 to 620 in the current year under review. As in previous years, the majority (91·5 per cent. of notifications came from the metropolitan area where diagnostic facilities are better than in country districts, and where rectal swabs of institutionalised children are taken at regular intervals. These swabbings frequently detect pathogenic organisms when the child has no symptoms whatever, in addition to clinical cases. The Queensland Institute of Medical Research carries out these regular examinations of children and staff, and a finding of particular interest to the epidemiologist is that the introduction of a new strain of infecting organisms into an institution comes usually from some member of the staff rather than from a newly arrived child. *Shigella sonnei* infections became rarer during the year whilst *alpha coli* infections showed a significant rise in children living in institutions. Yet amongst children admitted to the Brisbane Children's Hospital *Salmonella* and *Shigella* infections prevailed almost exclusively.

Leptospirosis.—Notified cases during 1952-53 reached 112, compared with 66 in 1951-52. The increase is due to the activities of the Queensland Institute of Medical Research which maintains a field station at Innisfail. Interesting remarks on leptospirosis will be found in the reports of the Industrial Medicine Division and of the Laboratory of Micro-Biology and Pathology. These leptospiral infections are now being detected in occupational groups where infection was once thought to be unlikely, and in persons whose clinical illness was transient and mild. A feature worthy of note was the detection of human infections due to *Leptospira canicola* in North Queensland, these being the first instances of infection with that organism to be diagnosed in Australia.

Malaria.—With the exception of an outbreak of malaria at Darnley and Murray Islands, off the coast of New Guinea, due probably to contact of lugger crews with New Guinea, no case of malaria was reported in Queensland. Nevertheless, the malarial drainage scheme constructed during the war at Cairns is falling into disrepair, as its maintenance is beyond the financial capacity of the local authority and even of the State Government. Although the strongest representations have been made to the Commonwealth Government on several occasions, there is yet no indication that financial assistance will be forthcoming to keep the drains permanently open and in good order. It would not cause surprise to learn that malaria has recurred in Cairns, as it is the natural seaport and airport for trade with New Guinea.

Tuberculosis.—During 1952-53, notifications of tuberculosis reached 943 (the highest number on record) compared with 679 in 1951-52 and 595 in 1950-51. Since the Division of Tuberculosis was set up in 1950, substantial progress has been made in the diagnosis and treatment of tuberculosis. In addition, medical practitioners who notify tuberculosis are now paid a fee, whilst the patient with tuberculosis is paid a generous pension as long as medical treatment is required. These are factors which have helped to swell the number of notifications. There is every reason to believe that the number of infected persons in the population has not increased, and notification of 943 cases in one year simply means that fewer cases remain undetected and untreated. The introduction of a mobile X-ray unit to tour country districts will detect further cases, but provided they can be given treatment and rendered non-infectious (and there is every hope that this will happen), fresh infections must decline year by year until the disease is no longer a major public health problem.

Tetanus.—Notifications totalled 33, compared with 14 in the previous year. As mentioned several times in this report during recent years, tetanus is of relatively frequent occurrence in this State, and death ensues in over 50 per cent. of cases. Analysis of the age distribution of 157 cases of tetanus notified for the five calendar years 1948-52, shows that children under the age of 15 years comprise 48 per cent. of cases, whereas this age group comprises only 27 per cent. of the population of Queensland (1947 Census figures).

Here is a disease which is entirely preventable and which in 1952 caused three times as many deaths as whooping cough and diphtheria combined. Tetanus toxoid is free under the Pharmaceutical Benefits Act, many local authorities offer free immunization and yet notified cases show no decline.

It is profitable to ask why the public response to active immunization is so poor. One reason is that public opinion is slow to accept a new procedure, and the disease being relatively rare, strikes only a few homes each year. Another reason is deaths due to allergy to tetanus anti-toxin do occur. The public, reading of these deaths, confuses tetanus anti-toxin with tetanus toxoid, and resolves to have nothing to do with active immunization. Several statements have been issued, making it quite clear that tetanus toxoid is a different substance and that it does not produce serious allergic manifestations, but much more publicity is required to make people realise that tetanus toxoid, properly given, produces permanent immunity, without danger to children. We should not be satisfied with our publicity efforts until we read that a death from tetanus anti-toxin has started a rush for tetanus immunization. The pending introduction of a combined diphtheria, tetanus and whooping cough prophylactic will reduce considerably the number of injections which a child must have.

Typhoid Fever.—During 1952-53, notifications of typhoid and paratyphoid fever reached 17, compared with 14 in 1951-52. An interesting minor outbreak was probably associated with bathing. Loders Creek, a tidal estuary, is a popular bathing spot at Southport. During January, 1953, four patients developed typhoid of the same phage type. They had all been on vacation at Southport, and the only likely common source of infection was that they had all been swimming in Loders Creek. Only one septic effluent drained into Loders Creek, and a gauze strip suspended in the effluent on two occasions showed no growth of typhoid organisms. Moreover, there had been no visitors to this particular home. However, just north and south of the estuary of the creek into a portion of Moreton Bay known as the Broadwater were several possible sources of infection. Two or three stormwater drains carried septic effluent, whilst a public lavatory drained effluent less than a hundred yards away from the mouth of the creek. It is likely that currents and tidal movement could carry some of these effluents, highly diluted, in to the bathing area of Loders Creek. Gauze strips were placed in these sources of infection on three separate occasions, but typhoid bacilli were not isolated. Further tests were abandoned, because it was then fairly clear that the carrier was probably a seasonal visitor like the patients, and had departed for parts unknown. With the onset of summer the position will be again investigated, as many of these holiday visitors return to the same spot each year.

Diphtheria.—Notifications for the fiscal year totalled 211 and for the calendar year 218, as compared with 163 and 136 for the corresponding periods last year. Of the notifications for 1952-53, 115 (or 54.5 per cent.) came from the Greater Brisbane Area which contains 37.6 per cent. of the population of the State. There has been a slight increase in this disease throughout the State despite the fact that over 90 per cent. of all school children have received basic immunization against diphtheria, but the increase is most marked in the Greater Brisbane Area. From the record low number of 26 notifications in the Greater Brisbane Area in 1948, notifications rose to 39 in 1949, to 81 in 1950, to 67 in 1951 and to 96 in 1952.

TABLE IX.

Showing Age Distribution and Sex Ratio of 384 Cases of Diphtheria in Queensland for the Fiscal Years 1951–53.

Age Group.	Males.	Females.	Persons.	Percentage of Total.	$\frac{M}{F}$ Ratio.
Under 1 year	5	3	8	2·1	1·66
1–4 years	74	45	119	31·0	1·64
5–9 years	69	76	145	37·8	0·91
10–14 years	17	13	30	7·8	1·31
15–19 years	1	16	17	4·4	0·06
20–29 years	14	18	32	8·3	0·78
30–39 years	3	18	21	5·5	0·17
40 years and over	6	6	12	3·1	1·00
	189	195	384	100·0	0·97

The age distribution and sex ratio of 384 cases of diphtheria occurring in Queensland for the two fiscal years 1951-53 are shown in Table IX. Children under one year are not particularly prone to develop diphtheria, but children under the age of ten years comprised 70 per cent. of all cases, a figure which is unchanged from the previous analysis in 1949. Over all cases, the sex ratio is almost unity, but between the ages of fifteen and forty years females are three times more likely than males to contract diphtheria, probably because of their closer association with children.

An attempt has been made to ascertain how many cases of diphtheria gave a history of previous immunization. Of 200 extra metropolitan cases, only 16 (or 8 per cent.) gave a history of immunization, whilst of 156 metropolitan cases, no fewer than 78 cases (50 per cent.) were previously immunized. Taking the 356 cases for the whole State, 94 (26 per cent.) were in immunized persons. With one exception, all cases in immunized persons were mild. That exception was a Brisbane child aged eight years who contracted diphtheria and died in April, 1953. She had received three doses of fluid toxoid in infancy, but had had no ''booster'' dose. Autopsy showed a heavy growth of laryngeal membrane and death was due to asphyxia rather than to toxaemia.

As mentioned earlier, diphtheria is slowly increasing in the Greater Brisbane Area, and it is highly desirable to reverse the present trend.

Basic immunization against diphtheria, although highly effective in preventing death, does not protect all children from diphtheria. As recent work in Tyneside and Dundee has shown, clinical diphtheria can still occur occasionally in immunized children, even in a few instances when the immunized children had a high level of circulating antitoxin. However, in nearly all cases of diphtheria in the immunized, the illness was so mild that no anxiety was caused. Active immunization is by far the best protection against diphtheria and its efficacy is not diminished by the occurrence of mild cases of clinical diphtheria among the immunized.

However, maintenance of the immunity conferred by basic immunization should be the object of all parents, doctors, and local authorities. Nowadays most infants are given two injections of highly purified toxoid (such as P.T.A.P.) between six and nine months of age, and a high degree of immunity results by the time the infant reaches its first birthday. Thereafter, unless the child comes in contact with small repeated doses of diphtheria bacilli, the immunity gradually wanes to such a degree that exposure to a large number of diphtheria bacilli may cause clinical disease. The remedy is not to disparage immunization, but to give the child a ''booster'' dose. Usually a child has few contacts outside his own street until he goes to school, when he immediately enlarges his contacts. Before the child starts school is the time to give him a reinforcing or ''booster'' dose.

The Brisbane City Council commenced giving free ''booster'' doses to children three years ago, and other local authorities have introduced similar schemes. In the Greater Brisbane Area, at least, it has not been possible to give ''booster'' doses to all school children, and the Brisbane City Council has undertaken to overcome the lag in the metropolitan schools by the end of 1954.

When every child in Queensland has received a ''booster'' dose of toxoid on or before commencing school, the present uncomfortable feeling about rising notifications will disappear.

Poliomyelitis.—The last two annual reports have carried an appendix dealing with the current outbreak of poliomyelitis which began in this State in October, 1950, and which is still present. However, it is a relief to record that the incidence is much lower, 242 accepted cases being reported as compared with 359 in 1951-52 and 824 in 1950-51. These figures compare with an average annual number of 30 notifications in inter-epidemic periods.

Table XIII. shows the monthly incidence of the disease during 1952-53 and since 1st October, 1950, according to whether paralytic or non-paralytic and whether occurring in the metropolitan area or in other parts of the State. The numbers in the metropolitan area and country areas were proportional to the population in 1952-53, and for the duration of the outbreak. In 1952-53, the percentage of non-paralytic cases was 12.8 in Brisbane, 12.5 in the country, and 12.8 for the whole State, compared with percentages of 16, 15.5 and 15.7 respectively since the outbreak began. About one case out of every seven notified is non-paralytic and of every eight cases notified, one does not develop poliomyelitis—the illness being due to some other cause.

Table XI. shows the age distribution, percentage age distribution and attack rates of poliomyelitis during 1952-53, and since October, 1950. Over the whole period of the outbreak, 3 per cent. of cases were under one year of age, 17 per cent. were between one and five years of age, and 23 per cent. between five and ten years of age. This proportion was not significantly altered during the year. The highest attack rates in males were in the 5-9 and 20-24 age groups and in females in the 10-14 and 20-24 age groups during 1952-53, whilst infants of less than 12 months of age have quite a high attack rate. The majority of cases of paralytic poliomyelitis in infants followed an injection or some injury.

Since October, 1950, cases of accepted poliomyelitis total 1,415, by far the highest number of cases in any outbreak on record. Of these, 804 cases have been males and 611 females, giving a sex ratio of 1.32 as compared with that of 1.04 in the Queensland population.

TABLE X.

SHOWING MONTHLY AVERAGE OF ACCEPTED CASES OF POLIOMYELITIS ACCORDING TO SEASON AND YEAR.

Season.	Months.	Monthly Average of Cases.
1950—		
Spring . .	September-November . .	12
1951—		
Summer . .	December-February . .	91
Autumn . .	March-May	145
Winter . .	June-August	72
Spring . .	September-November . .	20
1952—		
Summer . .	December-February . .	36
Autumn . .	March-May	9
Winter . .	June-August	11
Spring . .	September-November . .	7
1953—		
Summer . .	December-February . .	28
Autumn . .	March-May	37

Deaths.—Of 1,415 cases of poliomyelitis since October, 1950, a fatal outcome occurred in 127, giving an overall mortality rate of 8.98 per cent. Further details of deaths in various age groups are given in Table XII., from which it can be seen that the death rate rose with age, and reached about 20 per cent. in persons over 30 years of age. The death rate is reduced to 7.89 per cent. if, as is done elsewhere, the number of deaths is expressed as a percentage of the total notifications.

Seasonal Incidence.—Throughout Queensland, the months of December, January, and February are regarded as summer months. Table X. and Figure 1 show the average monthly number of cases that have occurred according to season, since September, 1950, It will be noted that in 1951 and again in 1953 the autumn months showed the highest incidence of the disease. The association of poliomyelitis with climate is not marked, however, and the disease now appears to continue, although at a lower level, throughout the winter months, whereas as late as a decade ago, the onset of cold weather would terminate an outbreak.

Progress in Poliomyelitis Control.—Important knowledge about poliomyelitis has been developed since 1947, and most of the new facts have come from the United States. An unusual set of circumstances has placed the United States in the position of leader in poliomyelitis research. Poliomyelitis is highly endemic in certain American States. President Roosevelt became infected with the disease, and he established the Georgia Warm Springs Foundation in 1934. Four years later, a philanthropic agency, known as the National Foundation for Infantile Paralysis, came into existence, and since then the National Foundation has spent 1.5 million dollars in financing investigations into poliomyelitis. These investigations have revealed that three strains of poliomyelitis exist, that poliomyelitis antibodies are present in infants of communities where paralytic poliomyelitis is rare, that the antibodies can inactivate virus, and that paralysis does not occur unless and until all circulating antibodies are neutralised. The antibodies are contained in the gamma globulin fraction of blood serum, and administration of gamma globulin to children exposed to infection will modify the disease in the first and sixth weeks after injection, while it appears to prevent infection altogether for four of the six weeks that it remains in the body. Another most important advance has been the culture of virus outside the human body. There is now no limit to the amount of virus that can be grown in artificial media, and it remains to modify the viruses in such a way that on inoculation they will produce immunity without frank disease.

Several field trials have been held, and are being held, to test the value of gamma globulin in the prophylaxis of poliomyelitis, but already it is clear that gamma globulin, except in special circumstances, is not a practical public health procedure because of the short period of immunity it confers.

Much more hopeful is the work on development of a poliomyelitis vaccine, which will confer immunity of much longer duration. With considerable assurance it can now be stated that poliomyelitis is within measurable distance of control.

FIGURE 1.

Showing average monthly incidence of Poliomyelitis in Queensland, according to seasons, since beginning of outbreak (October, 1950).

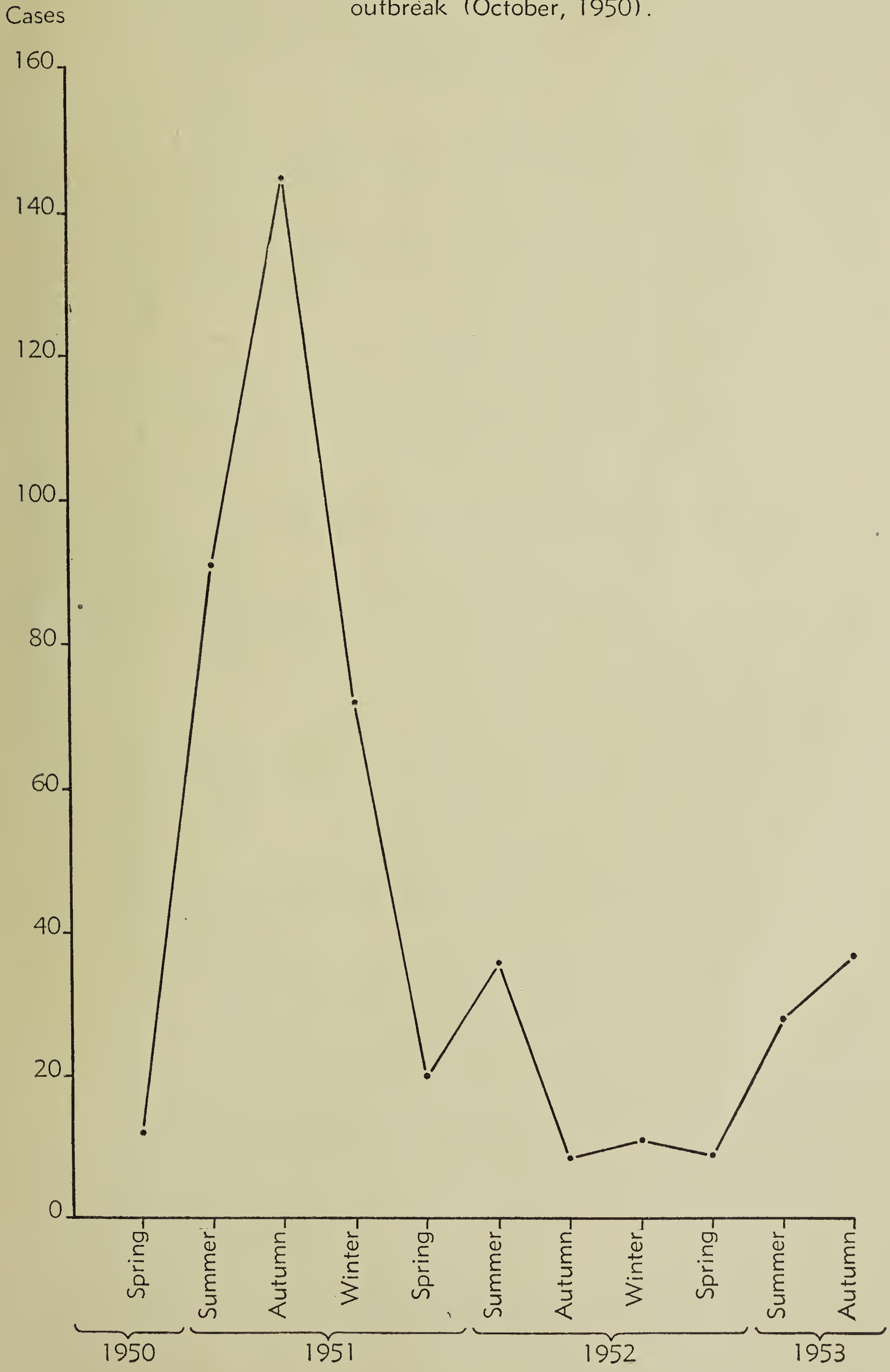


TABLE XI.

Poliomyelitis in 1952–53 showing Age Distribution, Percentage Age Distribution, and Attack Rate per 100,000 Population in each Age Group, together with Age Distribution and Percentage Age Distribution Since 1–10–50.

Age Group.	Males.				Females.				Persons.				Total 1–10–50 to 30–6–53.	
	Number.	Percentage of Total.	Population at 30–6–52.	Attack Rate per 100,000.	Number.	Percentage of Total.	Population at 30–6–52.	Attack Rate per 100,000.	Number.	Percentage of Total.	Population. at 30–6–52.	Attack Rate per 100,000.	Number.	Percentage of Total.
0–1	2	1·55	15,235	13·13	4	3·54	14,532	27·52	6	2·48	29,767	20·16	48	3·39
1–4	21	16·28	57,676	36·41	16	14·16	55,207	28·98	37	15·29	112,883	32·78	241	17·03
5–9	25	19·38	61,690	40·52	20	17·70	60,563	33·02	45	18·60	122,253	36·81	329	23·25
10–14	18	13·95	50,717	35·49	20	17·70	48,454	41·28	38	15·70	99,171	38·32	216	15·27
15–19	14	10·85	44,048	31·78	7	6·19	42,379	16·52	21	8·68	86,427	24·30	193	13·64
20–24	23	17·83	46,321	49·65	16	14·16	44,385	36·05	39	16·11	90,706	43·00	159	11·24
25–29	13	10·08	48,313	26·91	16	14·16	45,891	34·87	29	11·98	94,204	30·71	114	8·06
30–34	6	4·65	46,564	12·89	9	7·96	44,877	20·05	15	6·20	91,441	16·40	62	4·38
35–39	2	1·55	45,495	4·40	3	2·65	44,191	6·79	5	2·06	89,686	5·58	28	1·98
40–44	2	1·55	43,112	4·61	..	..	39,141	..	2	0·83	82,253	..	6	0·42
45–49	2	1·55	37,132	5·39	1	0·89	33,016	..	3	1·24	70,148	..	11	0·78
50–54	1	0·78	34,002	2·94	1	0·89	32,020	..	2	0·83	66,022	..	5	0·35
55 and over	..	..	101,238	..	..	..	102,226	..	..	..	203,464	..	3	0·21
All ages	129	100·00	631,543	20·43	113	100·00	606,882	18·62	242	100·00	1,238,425	19·54	1,415	100·00

TABLE XII.

Deaths from Poliomyelitis—1-10-1950 to 30-6-1953.

Age Group.	Metropolitan.	Extra Metropolitan.	Whole State.	Cases.	Death Rate.*
0– 4 years	3	8	11	289	3·81
5– 9 years	6	11	17	329	5·17
10–14 years	5	11	16	216	7·41
15–19 years	4	16	20	193	10·36
20–24 years	3	18	21	159	13·21
25–29 years	7	12	19	114	16·67
30–34 years	5	7	12	62	19·35
35–39 years	1	5	6	28	21·43
40 years and over	1	4	5	25	20·00
All Ages	35	92	127	1,415	8·98

* Per 100 accepted cases.

TABLE XIII.

Showing Monthly Notifications of Poliomyelitis in Queensland 1952–53, and since 1-10-1950, Dissected Paralytic, Non-paralytic and Negative and whether Metropolitan or Extra Metropolitan.

—	Accepted Cases.									Negative.	Total Notifications.
	Metropolitan.			Extra Metropolitan.			Whole State.				
	P.	N-P.	T.	P.	N-P.	T.	P.	N-P.	T.		
1952—											
July	1	..	1	1	3	4	2	3	5	1	6
August	6	..	6	3	..	3	9	..	9	..	9
September	1	..	1	4	..	4	5	..	5	1	6
October	1	..	1	3	1	4	4	1	5	..	5
November	1	..	1	9	2	11	10	2	12	1	13
December	5	3	8	14	3	17	19	6	25	3	28
1953—											
January	7	..	7	29	2	31	36	2	38	4	42
February	4	2	6	14	1	15	18	3	21	2	23
March	9	..	9	31	4	35	40	4	44	3	47
April	7	1	8	31	4	35	38	5	43	3	46
May	4	1	5	17	2	19	21	3	24	2	26
June	4	1	5	5	1	6	9	2	11	5	16
Total 1952–53	50	8	58	161	23	184	211	31	242	25	267
Total 1-10-50 to 30-6-52	323	64	387	659	127	786	982	191	1,173	170	1,343
Total 1-10-50 to 30-6-53	373	72	445	820	150	970	1,193	222	1,415	195	1,610

P = Paralytic.
N-P. = Non-paralytic.
T = Total cases.

HANSEN'S DISEASE (LEPROSY).

(1) HANSEN'S DISEASE IN THE WHITE POPULATION.

PEEL ISLAND LEPROSARIUM.

Acting Superintendent: M. H. Gabriel,
M.B., B.S.(Q'ld.), A.A.C.I.

THE HISTORY OF HANSEN'S DISEASE IN QUEENSLAND.

The early history of Hansen's disease in Queensland is rather vague—medical services were grossly inadequate by present standards and the disease was rarely diagnosed. A Chinese appears in the Brisbane Hospital records as suffering from Hansen's disease in 1855, whilst a European wardsman at the hospital was diagnosed as afflicted with Hansen's disease in 1868.

However, there is no evidence that the disease was prevalent in this State until the influx of Chinese to the goldfields and the organised importation of Kanakas. A Chinese prisoner at Cooktown was found to have Hansen's disease in 1877, whilst in Irvinebank a Chinese sufferer was stoned out of town, as he passed through from the Palmer in 1888. From the Chinese, the disease spread to the aboriginal and white populations. For instance, two European miners who had worked on the Peninsula goldfields developed Hansen's disease in 1895 and 1896 respectively, whilst cases occurred amongst aboriginals in the Cape York area from 1896.

The ports through which most Kanakas passed were Bundaberg and Mackay, and cases of the disease in South Sea Islanders were detected in 1892. Thereafter, Hansen's disease spread slowly to the white population, the first case appearing in 1907 at Bundaberg and in 1910 at Mackay. Wherever the Kanakas and the Chinese settled in large numbers, foci of the disease were set up which persist to this day.

Alarmed by the occurrence of Hansen's disease in Queensland, the Government passed "*The Leprosy Act of* 1892," which provided for the treatment, detention, and isolation of patients. Portion of Friday Island was declared to be a lazaret for coloured patients (*G.G.* 29-10-1892, p. 637), but prior to this, certain aliens appear to have been detained on Friday or Dayman Islands, near Cape York, prior to deportation. A little later in the same year, Stradbroke Island was declared to be a lazaret for the detention of white patients (G.G. 26-11-1892, p. 1010). The leprosaria on Friday and Stradbroke Islands were maintained until all the patients were transferred to Peel Island in 1907. The proclamations declaring Friday Island and Stradbroke Island to be lazarets were rescinded (G.G. 17-8-1907, p. 374).

On 30th June, 1904, twelve patients were under treatment. No further figures are given in annual reports until 1908, when it was recorded that sixty-five patients were detained at Peel Island. Of these, only sixteen patients were European. Treatment with chaulmoogra oil was introduced in 1907, and remained the standard treatment until displaced by the sulphone drugs forty years later. In 1910, the numbers under detention had increased to eight-four, consisting of twenty Europeans, thirty-nine Kanakas, twenty aboriginals, and five Orientals.

It is interesting to recall that in November, 1910, the Peel Island Lazaret was proclaimed as a quarantine area under "The Commonwealth Quarantine Act of 1908," and the annual report for 1910 adds: "Leper lazarets are thus brought within the scope of Federal action." It is only fair to state that at this time quarantine was controlled by the State on behalf of the Commonwealth. By "mutual arrangement," the management of the lazaret was taken over by the Federal Quarantine Service early in 1912, and Dr. Moore was appointed visiting medical officer. The State resumed control in 1914.

In 1913, the total number of patients segregated had fallen to fifty-six, of whom twenty-three were white. The annual report of the Commissioner for Public Health, 1916, states:—

> "Every facility is afforded to relatives to visit the inmates, and free passages by rail are issued to those living at distant centres, so that they may be saved every possible expense in journeying to and from the Lazaret; and in cases where inmates have dependents in poor circumstances, suitable employment is found for them. A good feeling exists between the inmates and the staff, and in spite of the nature of the disease, accompanied by its characteristic inclination to fits of ennui, it is most gratifying to have to mention that one and all appear to fully recognise that everything is being done to minimise and alleviate their sufferings."

Human nature does not change greatly.

Improvements continued to be made to buildings at Peel Island, and the annual report for 1925 records that "a loud speaker wireless installation was erected, which, when thoroughly understood with regard to its adjustment, should add materially to the comfort and pleasure of the inmates." On June 30, 1925, seventy-two patients were segregated, of whom no less than forty-four were white patients. The gradual increase in the number of white patients is significant, and indicates that the disease was now spreading from white to white, instead of from coloured to white as was the case thirty years earlier.

Ever since the introduction of chaulmoogra oil treatment in 1907, a few patients were discharged each year with arrested disease. In those days, patients were discharged after they had given bacteriologically negative smears for two years. In 1929, this period was reduced to eighteen months, in 1937 to fifteen months, and in 1950 to twelve months. Many patients, discharged under supervision, were later readmitted for relapse, but this has not yet occurred after treatment with sulphones.

After 1925, the number of patients segregated averaged between sixty and seventy, of whom about two-thirds were aboriginals, until the aboriginal patients were transferred to Fantome Island in January, 1940. The whole of Fantome Island was proclaimed a lazaret (*G.G.* 4-10-41, p. 1217), and a Catholic nursing order took over the care of the coloured patients.

Hansen's disease is probably declining slowly in the white population, but it remains a problem in aboriginals, especially in certain settlements. In one small settlement near Cairns, approximately 30 per cent. of aboriginals at one time had evidence of clinical Hansen's disease. Fortunately, most of these patients did not develop active disease, but Hansen's disease in the aboriginal runs a more acute course than in a white patient.

It cannot be said that patients have ever been neglected when they were segregated, but until recently treatment was of little avail. Our attitude to the disease, however, has been transformed. In the early days patients were brought down from the North in kennel-like structures on the poop deck of coastal boats and the patient's food was passed to him on a pole. The hovel was tipped into the ocean when the patient left it. Patients were not allowed to travel on the boat from Cleveland to Peel Island but were towed in a dinghy—a miserable journey in wet weather.

Much of the prejudice about Hansen's disease has vanished, but a good deal still remains. Our policy is to treat the patient like other patients, to care for him and his dependents whilst he is deprived of his freedom, to arrest his disease, and to restore him as a useful citizen in the community. Fortunately, modern drugs and a real interest in the patient make this possible today. The result is that patients now realise their stay in the leprosarium is only temporary and are now most co-operative.

STATISTICS.

TABLE XIV.

—	1950–51.			1951–52.			1952–53.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Population at 1st July	44	10	54	39	6	45	36	7	43
Admitted	5	..	5	6	1	7	1	..	1
Discharged	9	4	13	5	..	5	17	4	21
Died	1	..	1	4	..	4	..	..	..
Population at 30th June ..	39	6	45	36	7	43	20	3	23*
Increase	..	..	..	..	1	..	..	..	..
Decrease	5	4	9	3	..	2	16	4	20

* Includes one female in whom the disease is arrested.

Admissions.—There was only one admission during the year.

Discharges.—Seventeen male patients and four female patients were discharged during the year. The conditions of discharge remain unaltered, that is to say, patients must obtain twelve (12) consecutive negative smears taken at monthly intervals, or they may be released after six consecutive negative smears and a negative biopsy on giving an undertaking to carry out any treatment prescribed and to report to their own doctor or a public hospital at monthly intervals for six months for smears and blood examinations. All patients are kept under medical observation for six years after discharge. No patients availed themselves of the second condition of discharge.

Deaths.—There were no deaths during the year.

Medical Treatment.—The treatment of Hansen's disease is continuing with four sulphone drugs, one thiosemicarbasone drug and with isonicotinic acid hydrazide.

The large number of discharges during the year reflects the efficacy of the drugs in use. Of the discharged patients, seventeen were treated with dapsone, one with thiacetazone and three with isoniazid.

In the last annual report it was stated that the use of isonicotinic acid hydrazide (Isoniazid) had been commenced on a small group of selected patients. Of these patients three went on to discharge but one has remained substantially unchanged clinically and bacteriologically. The use of this drug will continue in view of the encouraging initial results. Dr. Gabriel is of the opinion, after over twelve months' experience with the drug, that—

(*a*) It is *not* the drug of choice in new cases or cases in which the smears are highly positive.

(*b*) It is of great benefit in those patients who have progressed on other drugs to the point where the smears are only occasionally positive. Dosage—two to five milligrams per kilogram of body weight daily in divided doses.

(*c*) Isonicotinic acid hydrazide (Isoniazid) will eventually prove of great value when used in conjunction with either dapsone or thiacetazone. At present a selected group of patients is being treated with sulphones and isoniazid in combination.

(*d*) Short courses of isoniazid given between courses of one of the other drugs will be of more benefit than continuous administration.

It is considered dapsone (diamino-diphenylsulphone) is the most valuable drug available, especially when given in bi-weekly dosages of 400 to 500 milligrams. Its value seems to be increased when 1.5 grams or more of para-aminosalicylic acid are administered daily in addition.

Next comes thiacetazone which is a very valuable alternative to dapsone, and this drug is followed by isoniazid, bearing in mind the previous remarks.

Two patients are still being given intravenous promin with beneficial results.

Ancillary Treatment.—Two drugs which have proved of great value in relieving "nerve pains"—one of the very persistent and unpleasant accompaniments of Hansen's disease—are being used at Peel Island.

The first is the sodium salt of para-aminosalicylic acid. In mild cases this is effective orally in dosages as low as 0.5 gram three times a day. In more severe cases the dose can be increased to 1.5 gram or more orally three times a day. In cases of localised nerve pains, especially pains in the ulnar nerve and its branches, the injection *around the nerve trunk* above the elbow joint of 10 millilitres of 20 per cent. sterile solution is, after an initial intense pain, very quickly effective and the relief lasts for a month or more. This drug has been used on quite a number of patients.

The second is Butazolidin. This expensive drug was used on one patient with complete success after all other measures had failed. The dose is kept down to between 200 and 400 milligrams daily until the pains are controlled, after which the drug may be ceased for periods up to two weeks without recurrence of the pains. Only one patient has been treated but the results are most encouraging.

Visits.—It is pleasing to note that there has been an increase in the number of medical visitors to Peel Island, and this may be considered as an indication of the interest now being taken in Hansen's disease. The most important visitors were medical students who visited Peel Island for clinical demonstrations and two of these students spent several days there during their long vacation to complete a project on Hansen's disease.

A dentist from the Brisbane Dental Hospital made twelve visits and carried out all classes of work required by the patients, and an optometrist made two visits to perform optometrical tests and to prescribe and dispense spectacles where necessary.

Regular visits are made by the Reverend Canon W. P. B. Miles, a Church of England clergyman, and Reverend Father G. Nolan of the Roman Catholic Church. The Salvation Army also visits the island.

Thanks are due to the Relatives' and Friends' Association for an excellent Christmas party, and to the Toowong Sub-Branch of the R.S.S.A.I.L.A. who conducted the Anzac service and provided a concert party. The Greenslopes Repatriation Social Club also visited.

Particular thanks are tendered to Mr. E. Ward, a voluntary worker for the Red Cross Handicraft Service, who instructs the patients in various handicrafts. Mr. Ward also assisted with various small jobs designed to help incapacitated patients.

The Koala Concert Party also visited the Island.

It is desired also to thank those organisations and individuals who have sent periodicals to the patients.

Patients Sent to Brisbane General Hospital for Specialist Treatment.—During the year the General Superintendent of the Brisbane Hospital (Dr. A. D. D. Pye) again made accommodation available at "Wattlebrae" Infectious Diseases Hospital for patients from Peel Island who were in need of specialist treatment.

A total of 16 patients was accommodated during the year, and of these three made two visits and one made three visits.

Laboratory of Micro-Biology and Pathology.—Extensive use was made again this year of the facilities provided by the Laboratory of Micro-biology and Pathology. The following table indicates examinations made by the laboratory:—

TABLE XV.

Specimen.	Number.
Venous Blood for Full Blood Examination . .	504
Tissue Smears (*for M. leprae*)	388
Venous Blood for Serological Tests	2
Venous Blood for Fasting Blood Sugar Estimates	4
Urine Specimens for Chemical and Microscopical Examination	301
Total	1,199

Staff and Administration.—With the decrease in patients, reorganisation of the staff has been found necessary, and recommendations have been made to reduce the number of persons employed.

Kitchen and Dining Room.—The kitchen has been reconditioned throughout; the whole of the interior was cleaned down, repainted, and metal shelving provided.

There has been improvement in the meals, and it is doubtful if there is any other institution anywhere which has a greater variety and better quality and quantity of food supplied to the patients.

A complete new patients' dining room has been constructed adjacent to, and connected with, the kitchen. This project is the work of the patients themselves. The building has been in use for two months, with considerable benefit to everyone.

Launch Contract.—The transport of persons and goods to and from Peel Island has now been carried on on a contract basis for over twelve months. This service has been an outstanding success and to date the only criticism about the service is that for various reasons the transport of drums and fuel and oil from Dunwich has lagged badly, but this has been overcome.

Patients.—With the increasing numbers of discharges and the few admissions most patients have developed a rather different outlook from the old hopelessness that once beset patients segregated because of Hansen's disease. The newer drugs, especially isoniazid, have given them hope of eventual complete and, perhaps, permanent recovery. All of this has led to an increased interest in productive work on the island and to planning for the time of discharge.

Patients, too, seem to be taking more interest in their personal hygiene and surroundings.

The benefits received by patients remain substantially unchanged from those listed in the last annual report with the exception that the clothing allowance has been increased from £30 to £35 per year.

In the past, most patients have preferred not to accept employment on the Island. At the present time, patients fill the position of a truck driver, a barber, and a painter and handyman. It is considered that it is better for them to be occupied as it assists them in their rehabilitation after discharge.

During the year, two patients were allowed temporary leave from the institution to visit close relatives who were dangerously ill, and who subsequently died. Both patients were grateful for the concession.

Much has been said about rehabilitation on the island, but it has been found that the patients have not been interested, preferring to wait until after their release before deciding what to do. One patient is engaged on a Junior Public course, and is making progress.

The year has been a very successful one with twenty-one discharges and only one admission, and still more patients showing promise of early improvement.

HANSEN'S DISEASE IN THE ABORIGINAL POPULATION.

Fantome Island Leprosarium.

Coloured patients have been admitted to Fantome Island, one of the Palm Island Group lying about 40 miles north of Townsville and only a short distance from Palm Island. Sisters of the Franciscan Missionaries of Mary accepted the nursing responsibility of the patients in 1940. Until 1951, medical attention was provided by the medical officer at Palm Island, but since that time—when the Townsville Hospitals Board took over the Palm Island Hospital—the medical staff has been provided by the Townsville Hospital which allocates a senior resident medical officer for a term of duty at Palm Island. This doctor visits the leprosarium regularly, and in cases of emergency, he is communicated with by radio telephone from Fantome Island. The medical superintendent of the Townsville Base Hospital visits Fantome Island from time to time and examines patients requiring specialist attention. The patient is then transferred to the Townsville Hospital for treatment.

Dr. Gabriel, medical superintendent, Peel Island, visited Fantome Island in April and furnished a valuable and comprehensive report. He found that all patients were in a good state of nutrition, and the disease had been brought under control to a greater or lesser degree. He paid a tribute to the care and skilled attention being given by the nuns. A few patients were intolerant of the sulphone drug being used and he recommended that alternative drugs might be used with advantage. Suitable action was taken.

Table XVI. shows the population changes at Fantome Island during the year.

TABLE XVI.

Showing Population Changes at Fantome Island Leprosarium for the Year 1952–53.

—	Males.	Females.	Persons.
Inpatients at 1st July, 1952	48	21	69
Admitted	5	3	8
Discharged	11	5	16
Died	..	..	..
Inpatients at 30th June, 1953	42	19	61
Increase or Decrease ..	—6	—2	—8

No deaths were recorded, a tribute to the devoted care of the Franciscan Sisters and to modern therapy. No less than 16 patients (almost a quarter of the total inpatients) were discharged to their homes or to Mission Stations with the disease arrested. All discharged patients continue sulphone therapy, and bacteriological examinations are made regularly. No patient discharged after sulphone therapy has yet relapsed, but it is too early to make dogmatic statements about the liability to recurrence.

Amenities at the leprosarium have been further improved. Electric light and power are now available, the new water scheme has been completed, and patients are enthusiastic about their Annual Arts and Crafts Show. Highlights still remain the weekly picture show and the arrival of visitors. Many patients are so contented that they view their discharges with mixed feelings.

SECTION OF ENTHETIC DISEASES.

Medical Officer in Charge: Geoffrey Hayes, M.B., Ch.M. (Syd.).
Medical Officer: Beatrice Warner, M.B., B.S. (Melb.).

During the year, 757 cases were notified to the Department—as usual, identification numbers being used and not names. This is an increase of 130 over the notifications of the previous year.

This represents an incidence of 0·607 per 1,000 mean population as compared with 0·514 for the previous year. Of these notifications, 122 were females and 635 males, as compared with 101 females and 526 males in the previous year. Five hundred and forty-two patients were diagnosed as suffering from gonorrhoea and 131 from syphilis as compared with 382 and 187 respectively the previous year. Sixty-three cases of venereal warts represented an increase of 11, but a large number of these were seen in men returned from Japan. On the other hand, cases of early syphilis (primary and secondary) show a satisfactory decline from 107 in the previous year to 78.

Table XVII. dissects the incidence of notified venereal disease in Queensland for the past twelve months.

TABLE XVII.
Notified Venereal Disease in Queensland, 1952–53.

—	Metropolitan.		Outside Centres.		Whole State.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	
Gonorrhoea—							
Unspecified	1	..	6	..	7	..	7
Acute	371	59	71	13	442	72	514
Sub-acute	..	..	3	1	3	1	4
Chronic	2	5	1	4	3	9	12
Ophthalmia	..	..	..	1	..	1	1
Vulvo-vaginitis..	..	1	..	2	..	3	3
	374	65	81	21	455	86	541
Syphilis—							
Unspecified	..	..	..	2	..	2	2
Primary	36	6	9	3	45	9	54
Secondary	14	3	5	2	19	5	24
Tertiary	3	1	2	..	5	1	6
Latent	20	7	1	7	21	14	35
Neuro	3	..	2	..	5	..	5
Pre-natal (cong.)	1	..	..	4	1	4	5
	77	17	19	18	96	35	131
Soft Sore	17	..	..	..	17	..	17
Venereal Warts	63	..	1	..	64	..	64
Ulcerative Granuloma	..	1	2	..	2	1	3
Sub-acute Gonorrhoea and Ophthalmia	..	..	1	..	1	..	1
	80	1	4	..	84	1	85
	531	83	104	39	635	122	757
	614		143		757		
	757						

Notifications from centres outside Brisbane shown in Table XVIII. give some idea of the distribution. It will be seen that the far north (Townsville and Thursday Is.) and the far west (Cunnamulla) either have a greater incidence than elsewhere or the medical practitioners there are more assiduous in compiling their notification returns.

TABLE XVIII.

CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE THE METROPOLIS.

Centre.	Males.	Females.	Total.
Atherton	1	..	1
Ayr	3	1	4
Beaudesert	1	..	1
Biloela	1	..	1
Blackall	1	..	1
Bowen	..	1	1
Bundaberg	2	1	3
Cairns	6	1	7
Charters Towers	4	3	7
Cloncurry	..	1	1
Collinsville	..	1	1
Caloundra	1	..	1
Coolangatta	1	..	1
Cunnamulla	9	1	10
Emerald	1	..	1
Gayndah	1	..	1
Gladstone	2	..	2
Gympie	4	1	5
Ipswich	..	1	1
Kingaroy	4	3	7
Mackay	3	2	5
Maryborough	2	..	2
Milmerran	..	1	1
Mount Morgan	1	..	1
Nambour	..	1	1
Palmwoods	..	1	1
Proserpine	..	1	1
Rockhampton	11	5	16
Southport	1	..	1
Tambo	1	..	1
Toowoomba	3	2	5
Townsville	12	4	16
Thursday Island	24	7	31
Warwick	3	..	3
Winton	1	..	1
	104	39	143

Table XIX. shows the number of venereal disease notifications since 1914 and the incidence per 1,000 of population.

TABLE XIX.

SHOWING NUMBER OF VENEREAL DISEASE NOTIFICATIONS SINCE 1914.

Fiscal Year.	Notifications.	Mean Population.	Incidence per 1,000 Population.
1914–15	1,414	688,212	2·054
1915–16	1,946	690,494	2·818
1916–17	1,477	680,772	2·171
1917–18	..	688,946	..
1918–19	2,003	707,732	2·83
1919–20	2,848	737,463	3·861
1920–21	2,302	754,374	3·051
1921–22	1,815	769,180	2·359
1922–23	1,710	785,466	2·177
1923–24	1,521	804,442	1·889
1924–25	1,503	825,313	1·821
1925–26	1,401	847,757	1·652
1926–27	1,319	864,502	1·525
1927–28	1,373	877,753	1·564
1928–29	1,382	891,435	1·55
1929–30	1,541	903,703	1·705
1930–31	1,552	917,830	1·690
1931–32	1,841	930,456	1·978
1932–33	1,464	940,628	1·556
1933–34	1,576	950,462	1·595
1934–35	1,248	961,200	1·298
1935–36	1,125	972,767	1·156
1936–37	1,211	984,056	1·23
937–38	1,256	996,448	1·26
1938–39	1,147	1,008,207	1·127
1939–40	1,091	1,021,426	1·077
1940–41	1,328	1,032,122	1·286
1941–42	1,207	1,036,690	1·164
1942–43	3,101	1,040,433	2·98
1943–44	2,718	1,054,810	2·576
1944–45	2,391	1,068,630	2·24
1945–46	1,309	1,084,125	1·207
1946–47	1,373	1,097,303	1·251
1947–48	1,000	1,112,722	1·112
1948–49	846	1,134,738	·745
1949–50	731	1,163,084	·628
1950–51	626	1,172,542	·534
1951–52	627	1,219,606	·514
1952–53	757	1,247,890	·607

Table XX. shows the alleged sources of the notified infections, of which 44 are attributed to professional prostitutes as against 24 last year, which parallels the number of 15 prostitutes found infected as compared with 8 last year.

Congenital (pre-natal) disease shows a satisfactory decline from 9 in the previous year to 3 during the 12 months under review.

TABLE XX.

SHOWING SOURCES OF INFECTION.

Non-professional	432
Unknown	240
Prostitutes	44
Occupational (prostitutes)	15
Wives	10
Husbands	9
Parents	3
Mother	2
Aboriginals	2
	757

Tables XXI. and XXII. show the marital status and the age groups of the cases notified and show no variation from the general pattern of previous years.

TABLE XXI.

MARITAL STATUS.

—	Males.	Females.	Total.
Married	148	45	193
Single	469	44	513
Separated	9	10	19
Widowed	6	5	11
Divorced	0	5	5
Unknown	3	13	16
	635	122	757

TABLE XXII.

SHOWING AGE DISTRIBUTION OF NOTIFIED CASES.

Age Group	Males.	Females.	Total.
Unknown	10	10	20
Under 1 year	..	2	2
1–5 years	..	2	2
6–10 years	..	3	3
11–15 years	2	..	2
16–20 years	57	14	71
21–25 years	198	30	228
26–30 years	142	25	167
31–35 years	89	11	100
36–40 years	54	9	63
41–45 years	30	6	36
46–50 years	19	3	22
51–55 years	13	3	16
56–60 years	9	3	12
61–65 years	7	..	7
Over 65 years	5	1	6
	635	122	757

Table XXIII. shows the sources of the notifications received. It will be seen that 10 per cent. of these were received from private practitioners as compared with 9·7 per cent. last year.

TABLE XXIII.

SHOWING SOURCES OF NOTIFICATION.

——	Males.	Females.	Total.
Private Doctors—			
Brisbane	23	6	29
Outside Centres	35	12	47
State Total	58	18	76
Hospitals—			
Brisbane	17	8	25
Outside Centres	39	10	49
State Total	56	18	74
Clinics—			
Brisbane	491	69	560
Outside Centres	30	17	47
State Total	521	86	607
Total all sources	635	122	757

DEPARTMENTAL CLINIC FOR MALES.

A. Record of Activities.

New Cases	1,135
Total Visits	11,482
Notifications	492
Injections—	
Arsenic	1
Bismuth	445
Penicillin	1,191
Bloods for Wassermann Test	1,585
Smears to Departmental Laboratory	241
Smears Examined at Clinic	3,379
Dark Ground Tests at Clinic	107
Prophylactic Treatments	875

B. Notifications (dissected).

Early Syphilis—		
Primary	33	
Secondary	9	
Latent	10	
Late Syphilis—		
Secondary	2	
Pre-natal	1	
Latent	4	
Neuro	1	
		60
Gonorrhoea—		
Acute	350	
Chronic	2	
		352
Venereal (Genital) Warts	63	63
Soft Sore	17	17
		492

The Male Clinic is situated in South Brisbane, and in addition to the treatment of venereal disease, provides prophylactic facilities (including merchant seamen and service personnel) and also clinical instruction to medical students. It is felt that this Clinic would provide a much more useful service and attract more patronage if it were more conveniently situated on the north side. A recent check showed that even with the present adverse situation, north side addresses outnumbered south side addresses by two to one.

The staff of the Female Section, in addition to the routine work at the Women's Clinic, also conducts a weekly examination of prostitutes and treats any infected females at H.M. Prison. The medical officer also attends the Ante-Natal Clinic at the Women's Hospital.

Both Clinics co-operate in the detection and treatment of contacts—an activity certainly not the least important of the sections of venereal disease.

DEPARTMENTAL CLINICS FOR FEMALES.

RECORD OF ACTIVITIES 1952–53.

A. WOMEN'S CLINIC.

Total Interviews	994
New Patients	169
Arsenical injections	23
Bismuth injections	134
Gonorrhoea vaccine injections	21
Penicillin injections	294
Smears	833
Bloods for Wasserman Test	275
Dark ground examinations	14
Trichomonas	8
Patients cultured	248
Number of cultures	741
Patients treated (thrush, &c.)	26
Discharged	6

B. WILLIAM ST. ROOMS (EXAMINATION OF PROSTITUTES),

Examinations	1,525
Bloods	267
Bismuth injections	4
Dark ground examinations	6
Smears	3,363
Patients cultured	19
Number of cultures	56

C. Notifications.

Total notifications from Women's Clinic		78
Acute Gonorrhoea	56	
Chronic Gonorrhoea	5	
Primary Syphilis	3	
Secondary Syphilis	3	
Latent Syphilis	7	
Syphilis Treated	4	
	78	

Two of these patients suffered from acute gonorrhoea and latent syphilis, and appear under both headings.

Twelve of these notifications are those of professional prostitutes and are as follows:—

Acute Gonorrhoea	11
Chronic Gonorrhoea	1
	12

Seven of these notifications are those of prisoners in Her Majesty's Prison and are as follows:—

Acute Gonorrhoea	4
Chronic Gonorrhoea	1
Primary Syphilis	1
Latent Syphilis	1
	7

During the year, 108 prisoners were examined. Fifty-two of these examinations were in respect of 10 women who were imprisoned as chronic alcoholics and/or vagrants on a number of occasions.

From St. Mary's Home, 31 girls were examined, but no venereal disease was detected in these patients.

Two (2) contacts of primary syphilis were treated.

SECTION OF FOOD AND DRUGS.

During the year the Section of Food and Drugs has carried out its work of policing the Food and Drugs Sections of the Health Acts, the Food and Drug Regulations, Health (Food Supply) Regulations, Health (Insecticides) Regulations, the Poisons Regulations, Milk-sellers' Regulations and the Footwear Regulations.

Milk.—The supply of milk to the public has received the closest possible attention of the staff in all parts of the State. The work has entailed not only sampling operations for the purity of the milk but also inspections of premises of many kinds.

Samples obtained were submitted to the Government Analyst for examination, and results are particularised in the report covering that section. As a result of this sampling, prosecutions were successfully launched in twenty-one instances against persons for selling adulterated milk. It is to be noted that sampling has been directed to doubtful supplies.

In two instances, action was also taken against persons selling milk below the standard in milk-fats, whilst many other producers were instructed to improve their supply when milk-fat deficiencies were small.

The inspection of vehicles and utensils used for the carriage of milk for sale was carried out during sampling operations and many vendors were proceeded against for such offences as unsuitable vehicles, defective taps, no lids on measures, &c. In all, twelve persons were prosecuted for such breaches.

Of the city of Brisbane's milk supply, 80 per cent. is sold as bottled pasteurized milk. Fourteen milk pasteurizing plants, operating in country areas, supplied more than 6,000,000 gallons of bottled pasteurized milk during the year ended 30th June, 1953.

The conduct of these premises has not been overlooked, and regular inspections, in addition to regular sampling, have been carried out at such premises. Inspections include not only a close scrutiny of pasteurising and bottling methods, but also general cleanliness and lay-out of premises. Advice for any improvement has been freely given by the staff and as freely welcomed by the factories, resulting in many noticeable improvements. Factories are now located at Brisbane (4), Southport, Merrimac, Booval, Warwick, Toowoomba, Nambour, Maryborough, Murgon, Bundaberg, Rockhampton, Mackay, Innisfail, Cairns, and Malanda. The number and distribution of these factories will give some indication of the work that has to be done by the staff.

In the latter half of the year, the Free Milk Scheme for schools was inaugurated in Queensland by the Department of Public Instruction, with the co-operation of this Department. Despite the change-over required for handling the smaller bottles, and the big question of delivery to a large number of schools in a limited space of time, the scheme was successfully launched. In view of the many millions of bottles that have been distributed, the number of complaints received has been astoundingly small. As factories are able to secure the smaller bottles and organise distribution, more areas are being serviced and the scheme is now extending towards the ultimate goal—that every child, whom it is possible to reach, should receive this benefit.

Prosecutions for adulteration in milk do not accurately reflect the real position in regard to the milk supply. It has been the practice in Queensland for the owner of adulterated milk to be prosecuted on the average adulteration for all his cans, with the result that one case is taken. In some other countries, a producer with several cans of adulterated milk would receive a complaint in respect of each can.

In addition, the minimum fine for adulteration has remained static for a long number of years, and, as the minimum fine becomes the maximum in most cases, it is quite evident that, in comparison with the days when money had more value, the punishment is less severe and in some instances appears to have lost its deterrent effect.

Consideration is suggested for amendments to the Health Acts to make it certain that the punishment inflicted on the transgressor has a more salutary effect.

TABLE XXIV.

PROSECUTIONS FOR MILK ADULTERATION FOR YEAR 1952–53.

Date.	Place.	Fines.	Costs.
		£ s. d.	£ s. d.
1952—			
7th August	Malanda	20 0 0	1 7 0
8th August	Rockhampton	20 0 0	1 7 0
13th August	Richmond	10 0 0	1 10 0
2nd September	Ipswich	12 0 0	1 7 0
2nd September	Ipswich	11 0 0	1 7 0
2nd September	Ipswich	5 0 0	1 7 0
13th September	Longreach	20 0 0	1 7 0
10th October	Mackay	10 0 0	1 10 0
31st October	Brisbane	14 0 0	1 7 0
14th November	Boonah	6 0 0	1 7 0
21st November	Townsville	4 0 0	1 7 0
9th December	Brisbane	20 0 0	1 7 0
1953—			
10th February	Rockhampton	20 0 0	1 7 0
25th February	Springsure	15 0 0	1 7 0
27th February	Clermont	15 0 0	1 7 0
4th March	Brisbane	12 0 0	1 7 0
4th March	Brisbane	11 0 0	1 7 0
9th April	Gympie	11 0 0	1 7 0
23rd April	Brisbane	11 0 0	1 7 0
23rd April	Brisbane	17 0 0	1 7 0
28th May	Charleville	11 0 0	1 7 0
Totals		275 0 0	28 13 0

TABLE XXV.

PROSECUTIONS FOR MILK-FAT DEFICIENCIES FOR 1952–53.

Date.	Place.	Fines.	Costs.
		£ s. d.	£ s. d.
1952—			
9th December	Brisbane	3 0 0	1 7 0
1953—			
10th February	Rockhampton	15 0 0	1 7 0
13th March	Townsville	1 0 0	1 7 0
Totals		19 0 0	4 1 0

TABLE XXVI.

MISCELLANEOUS PROSECUTIONS OF MILKSELLERS FOR YEAR 1952–53.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1952—				
11th July	Gympie	No lid on measure	2 0 0	0 6 0
11th July	Gympie	No lid on measure	2 0 0	0 6 0
11th July	Gympie	No lid on measure	3 0 0	0 6 0
15th October	Townsville	No lid on measure	2 0 0	0 6 0
15th October	Townsville	No cover on milk top	1 0 0	0 6 0
23rd October	Brisbane	Selling milk without licence	3 0 0	0 6 0
21st November	Townsville	No name, &c., on vehicle	2 0 0	0 6 0
21st November	Townsville	No cover on milk top	3 0 0	0 6 0
1953—				
10th February	Rockhampton	Water on milk vehicle	15 0 0	0 6 0
27th February	Clermont	Unsuitable milk vehicle	7 0 0	0 6 0
27th February	Clermont	Unsuitable milk vehicle	7 0 0	0 6 0
8th May	Cairns	Vehicle not properly enclosed	3 0 0	0 6 0
Totals			50 0 0	3 12 0

Tobacco.—During the year, serious inroads were made into the time of the staff by the necessity for undertaking a vigorous campaign in sampling tobacco leaf. Tests revealed an excess amount of lead arsenate, indicating that growers had been using this pesticide too freely.

The reason given was that abnormal weather conditions and consequent excessive pest infestation had necessitated this technique of application. For two of the sales, held at Mareeba, a State analyst, an analyst from the Agricultural Chemical Laboratory and an officer from this section were stationed at Mareeba to expedite sampling and testing, so as to allow sales of "passed" leaf to take place. In addition to these operations at Mareeba, sampling was carried out at Townsville and also at Brisbane, and all leaf for the balance of the season was examined before being offered for sale.

The necessity for this work upset to a marked degree, not only the work of this Section, but also that of the Government analyst and the Agricultural chemist. In view of last year's occurrence, it is apparent that a reasonable check must be kept on leaf offered for sale, and that such check must continue. With that in mind, "snap" sampling is being done for all sales.

To date, the results have been encouraging and would seem to indicate a more rational use of pesticides.

It could be observed, at this juncture, that the main problem in pest control is one for the grower. It was evident, from results, that most farmers were able to produce leaf to standard in areas where other growers used lead arsenate to excess. In this respect, it was refreshing to find the North Queensland Tobacco Growers' Co-operative Association appointing a successful grower as a field officer to advise growers on pest control and other matters affecting the growing of tobacco leaf.

Spirituous Liquors.—This feature of the departmental work was not neglected, and officers were active in testing spirits offered for sale. As a result of activities in this direction, nine prosecutions were successfully undertaken.

TABLE XXVII.

LIQUOR PROSECUTIONS FOR YEAR, 1952–53.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1952—				
13th August	Blackall	Rum adulterated	50 0 0	1 7 0
27th August	Brisbane	Rum adulterated	10 0 0	1 7 0
13th September	Longreach	Rum adulterated	20 0 0	1 7 0
11th October	Walkerston	Gin adulterated	10 0 0	1 7 0
3rd November	Bundaberg	Rum adulterated	8 0 0	1 7 0
18th December	Bowen	Whisky adulterated	10 0 0	1 7 0
19th December	Killarney	Whisky adulterated	4 9 0	5 11 0
23rd December	Eton	Brandy adulterated	10 0 0	1 7 0
1953—				
25th May	Southport	Rum adulterated	10 0 0	1 7 0
Totals			132 9 0	16 7 0

Preservative in minced meats.—That this practice by some butchers has not yet ceased was evidenced by the fact that, as a result of a campaign by departmental officers, several butchers were found to be using preservative in minced meat, whilst one butcher was found using an excess of preservative in sausage meat. Ten butchers were successfully prosecuted. It is to be hoped that these prosecutions will have a salutary effect on the trade.

TABLE XXVIII.

PROSECUTIONS FOR ADULTERATED MINCED MEAT AND SAUSAGES FOR YEAR, 1952–53.

Date.	Place.	Name of Article and Quantity of Preservative (Sulphur Dioxide) Present.	Fines.	Costs.
1952—			£ s. d.	£ s. d.
23rd April	Brisbane	Adulterated minced meat, 4·7 grains per pound of SO_2	3 13 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 4·3 grains per pound of SO_2	8 13 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 4·2 grains per pound of SO_2	10 0 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 9·5 grains per pound of SO_2	10 0 0	1 7 0
23rd April	Brisbane	Adulterated sausages, 5·5 grains per pound of SO_2	7 10 0	1 13 0
23rd April	Brisbane	Adulterated minced meat, 10·3 grains per pound of SO_2	10 13 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 1·4 grains per pound of SO_2	8 13 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 7·4 grains per pound of SO_2	7 0 0	3 9 0
23rd April	Brisbane	Adulterated minced meat, 16·5 grains per pound of SO_2	12 10 0	1 7 0
23rd April	Brisbane	Adulterated minced meat, 1·1 grains per pound of SO_2	2 0 0	3 9 0
Totals			80 12 0	18 0 0

Misdescribed Sandwiches.—Quality of bread and butter sandwiches was investigated and it was found that quite a few vendors were selling margarine (or a mixture of margarine and butter) as butter on sandwiches. Court action eventuated in respect of seven persons for this offence, and particulars are detailed in the miscellaneous prosecutions table. (Table XXIX.).

Other Duties.—Officers have been busy on all other aspects of food control, and this work has necessitated inspections of warehouses, stores, auction marts, mixed businesses, bakeries, cafes, cordial factories, food factories, food packing premises, ice cream factories, and other similar food premises. Complaints from both the public and the trade have all been investigated, whilst inspections at the Queen's warehouse have been carried out at the request of the Department of Trade and Customs.

Check Sampling.—The usual unofficial sampling and testing of various food lines have been carried out, and as a result of this work, many defects have been found and corrected.

The range of unofficial samples during the year was very wide and comprised, amongst others, the following:—Milk, tobacco, soft drinks, soaps and washing powders, medicinal preparations, bread, jams, disinfectants, flowers, confectionery, crayons and pastels, detergents, margarine, cosmetics, jelly crystals, custard powders, breakfast foods, sauces, teas, and paints.

Labelling.—Close attention has been paid to the labelling of various products and improvements effected with a view to having the label truly indicative of the real nature of the food. Personal interviews with food packers in respect of proper labelling is a big feature of this particular work.

Legislation.—During the year, a set of regulations, known as *The Cafe Regulations of* 1952, were drawn up and gazetted for the area of the City of Brisbane, which body is authorised to enforce them.

Consideration is now being given to their extension to all local authorities in the State.

A great deal of work has been put into the preparation of a new set of Food and Drug Regulations, which envisage better standards and alterations to meet altered and improved conditions.

Work was also done on proposed new Milk-sellers' Regulations, in which it is intended to make provision for improved standards, especially of pasteurised milk factories.

A set of Paint Regulations was prepared to ensure standards for paint and improved labelling requirements to indicate fully to the purchaser the true nature of the paint purchased.

Miscellaneous Prosecutions.—During the year, thirty-eight (38) charges for miscellaneous breaches of the Acts and Regulations were successfully taken to court. These, in the main, were taken against persistent offenders with a view to their correction. It is the policy of the Department to endeavour to obtain the co-operation of everyone in regard to the legal requirements, and prosecutions are instituted only after this approach has failed.

TABLE XXIX.

PROSECUTIONS FOR MISCELLANEOUS OFFENCES DURING THE YEAR, 1952–53.

Date.	Place.	Basis of Prosecution.	Fines.			Costs.		
			£	s.	d.	£	s.	d.
1952—								
17th July	Brisbane	Failure to comply with Director-General's notice	20	0	0	0	6	0
31st July	Brisbane	Storing food in unsuitable place	5	0	0	0	6	0
31st July	Brisbane	Insufficiently ventilated premises	5	0	0	0	6	0
31st July	Brisbane	Dirty food premises	5	0	0	0	6	0
31st July	Brisbane	No lid on refuse bin	5	0	0	0	6	0
5th August	Brisbane	Adulterated bread and butter sandwiches	5	0	0	1	7	0
5th August	Brisbane	Adulterated bread and butter sandwiches	5	0	0	1	7	0
5th August	Brisbane	Adulterated bread and butter sandwiches	2	0	0	3	9	0
5th August	Brisbane	Adulterated bread and butter sandwiches	5	0	0	1	7	0
5th August	Brisbane	Adulterated bread and butter sandwiches	5	0	0	1	7	0
5th August	Brisbane	Adulterated bread and butter sandwiches	10	0	0	1	7	0
5th August	Brisbane	Adulterated bread and butter sandwiches	5	0	0	1	10	0
12th August	Jericho	Food exposed to contamination	5	0	0	0	6	0
25th August	Southport	Rat harbourage in food premises	7	10	0	0	4	6
25th August	Southport	Dirty food premises	7	10	0	0	4	6
25th August	Southport	Food premises not ceiled or lined	10	0	0	0	9	0
11th September	Innisfail	Exposed foodstuffs	2	0	0	0	6	0
13th September	Longreach	Food exposed to contamination	2	0	0	1	17	6
13th September	Longreach	Waste food exposed	2	0	0	1	17	6
16th September	Townsville	Beer drips not denatured	1	0	0	1	7	0
16th September	Townsville	Beer drips not denatured	1	0	0	1	7	0
15th October	Townsville	Obstruction of officer	10	0	0	0	6	0
24th October	Cairns	Waste food exposed	10	0	0	0	6	0
19th November	Tully	Dirty food premises	4	0	0	0	6	0
25th November	Gargett	Dirty bakehouse	10	0	0	0	6	0
25th November	Gargett	Dirty bakehouse utensils	10	0	0	0	6	0
3rd December	Brisbane	Rat infested food premises	7	10	0	0	6	0
1953—								
3rd February	Cairns	Bread improperly wrapped	2	0	0	0	6	0
27th February	Bowen	Adulterated brown bread	5	0	0	1	7	0
4th March	Townsville	Dirty food premises	10	0	0	1	7	0
4th March	Townsville	Bedroom in direct communication with food premises	5	0	0	1	7	0
4th March	Townsville	Food exposed to contamination	1	0	0	1	7	0
23rd March	Mackay	Dirty food premises	10	0	0	0	6	0
23rd March	Mackay	Rat infested food premises	5	0	0	0	6	0
18th June	Thursday Island	Dirty food premises	3	0	0	0	6	0
18th June	Thursday Island	Dirty yard at food premises	3	0	0	0	6	0
18th June	Thursday Island	Baker with unclean clothing	3	0	0	0	6	0
30th June	Cairns	Dirty bakehouse premises	15	0	0	0	6	0
Totals			228	10	0	30	9	0

Unsound Foods.—Departmental officers have kept a close watch on the quality of food-stuffs offending painter was successfully prosecuted. been detected, have arranged for and supervised the destruction of these foods to prevent their use.

Fish Inspection.—Two officers are stationed at the Fish Markets. As a result, a big quantity of fish was removed from sale as unfit for human consumption and was denatured under supervision before being sent away for manufacture into fertiliser. The big quantity of fish so dealt with this year was caused by extremely heavy seasonal gluts of some types.

Paints.—Many instances of paint, containing prohibited quantities of lead, being illegally used came under the notice of departmental officers, who carried out the necessary investigations. As a result of these investigations, orders have been given for the removal of the offending paint in all cases, whilst, in seven cases, the offending painter was successfully prosecuted. As many of these samples were taken as the result of lead poisoning being detected in children, the gravity of using lead paint in prohibited places cannot be too strongly emphasised.

TABLE XXX.

UNSOUND FOOD DESTROYED.

Article.	Weight.			
	T.	C.	Q.	L.
Baking Powder	0	2	2	14
Biscuits	0	0	1	10
Breakfast Foods	0	2	1	3
Cocoa	0	0	1	0
Coconut	0	6	1	15
Condiments	0	0	1	20
Confectionery	0	9	0	14
Cordials	6	15	2	5
Crayfish	0	2	3	7
Cream Neutraliser	1	0	1	12
Dates	0	6	3	10
Dripping	0	0	1	26
Fish—				
Canned	2	17	2	20
Cured	0	2	2	14
Fresh	0	3	3	12
Fish Paste	0	0	3	6
Flour	1	8	0	4
Fruit (Canned or Preserved)	1	15	2	0
Fruit (Fresh)	5	8	0	9
Hams	0	1	1	18
Icing-sugar	0	10	0	0
Jams	0	3	0	7
Jelly Crystals	0	3	0	6
Macaroni, Spaghetti, Vermicelli	0	0	2	20
Meat (Canned)	0	0	2	8
Meat (Preserved)	0	1	2	14
Milk (Condensed, Dried, Preserved)	0	12	1	2
Nuts	0	11	0	5
Prawns	0	4	0	15
Puddings	0	3	2	1
Rice	0	8	2	16
Soups	0	1	3	15
Sugar	0	11	0	27
Tea	0	2	1	8
Vegetables (Canned)	0	19	2	11
Vegetables (Fresh)	23	13	3	3
Miscellaneous	0	1	0	23
	49	14	0	8

In Addition—

Beer	1,440 bottles
Spirits	62 bottles
Cigarettes	1,332,798
Cigars	68
Tobacco	1T. 3C. 1Q. 17L.
Quantity of Saline Powder	1C. 3Q. 20L.

TABLE XXXI.

SHOWING QUANTITY OF FISH CONDEMNED AND DESTROYED AT THE FISH BOARD MARKET, SOUTH BRISBANE, FOR YEAR, 1952–53.

Class of Fish.	Weight.			
	T.	C.	Q.	L.
Bream	6	12	1	19
Bream Fillets	3	3	3	16
Barramundi	0	0	0	9
Bonito	0	1	3	15
Catfish	0	4	2	17
Cod	0	5	0	26
Darts	0	1	1	27
Drummer	0	4	0	15
Emperor	0	0	2	1
Flathead	0	3	2	12
Garfish	0	14	2	23
Groper	0	1	2	10
Haddock	0	1	0	0
Hake	0	0	0	25
Hussar	0	0	0	10
Jew	0	0	1	20
John Dory	0	12	3	4
Kingfish	0	0	2	19
Long Toms	0	14	3	4
Mackerel	1	11	0	1
Mixed Fish	0	6	3	12
Mullet	94	11	0	18
Oyster Cracker	0	0	1	25
Parrot	0	7	1	10
Perch	0	0	2	2
Pike	0	17	1	2
Ray	0	19	3	22
Salmon	0	0	4	8
Sampson	0	0	0	17
Schnapper	0	12	0	3
Shark	0	5	1	22
Sole	0	0	1	13
Squid	0	4	0	27
Squire	0	4	3	14
Sweetlip	0	19	0	12
Tailer	3	3	0	6
Trevalli	0	6	0	14
Trout	0	0	1	10
Trumpeter	0	6	1	17
Tuna	0	0	1	18
Turrum	0	4	3	0
Tusk	0	0	0	12
Whiting	2	19	3	2
Whiting Fillets	0	10	3	21
Yellowtail	0	5	3	21
Total	122	3	3	13

also :—

Prawns	3 tons 10 cwt. 0 qr. 16 lb.
Lobsters	0 ton 1 cwt. 1 qr. 22 lb.
Bottles Oysters	285
Sandcrabs	1,482
Turtle	1

TABLE XXXII.

PAINT PROSECUTIONS.

Date.	Place.	Offence.	Fines.	Costs.
1952—			£ *s.* *d.*	£ *s.* *d.*
22nd August	Rockhampton	Using lead paint on steps	5 0 0	1 7 0
23rd August	Bundaberg	Using lead paint in prohibited places	5 0 0	1 7 0
23rd August	Bundaberg	Using lead paint in prohibited places	5 0 0	1 7 0
11th October	Mackay	Improper use of lead paint	5 0 0	1 7 0
25th November	Rockhampton	Using lead paint on steps	8 0 0	1 7 0
25th November	Rockhampton	Using lead paint on steps	10 0 0	3 9 0
1953—				
17th June	Rockhampton	Using lead paint on steps	8 0 0	1 7 0
Totals			46 0 0	11 11 0

Poisons and Drugs.—This important section of the department's activity was actively carried out and much good work and progress was effected. This is painstaking work, such as checking dangerous drug prescriptions, and has necessitated numerous inquiries and inspections at all places where such drugs are handled. In this connection, a close liaison has been maintained with relevant Commonwealth Departments.

Surveys have been made of licensed poison dealers, not only in regard to the handling of poisons, but also in regard to their correct labelling, so as to allow the trader to know exactly what he is selling and the purchaser to understand what he is buying. Much improvement in labelling has been effected as a result of interviews with manufacturers and packers, who have been most co-operative.

Court action was found necessary in several instances and all cases undertaken were brought to a successful conclusion.

Two doctors were successfully prosecuted for breaches of the Poisons Regulations—one for self-administration of dangerous drugs and the other for prescribing dangerous drugs for self-administration.

Two chemists were prosecuted for failure to record sales of dangerous drugs, to cancel and endorse dangerous drug prescriptions, or to remit cancelled dangerous drug prescriptions to the Director-General, whilst two other chemists were prosecuted for selling restricted drugs without a medical prescription.

TABLE XXXIII.

PROSECUTIONS FOR BREACHES OF POISONS REGULATIONS.

Date.	Place.	Basis of Prosecution.	Fines.			Costs.		
			£	*s.*	*d.*	£	*s.*	*d.*
1952—								
9th December	Toowoomba	Self administering dangerous drug	20	0	0	0	6	0
15th December	Mackay	Failing to endorse dangerous drug prescriptions	5	0	0	0	6	0
15th December	Mackay	Failing to cancel dangerous drug prescriptions	5	0	0	0	6	0
1953—								
16th January	Brisbane	Failing to remit cancelled dangerous drug prescriptions to Director-General	9	14	0	0	6	0
16th January	Brisbane	Failing to record sales of dangerous drugs in Drugs Book	9	14	0	0	6	0
19th March	Brisbane	Selling restricted drugs without doctor's prescription	10	0	0	0	6	0
19th March	Brisbane	Selling restricted drugs without doctor's prescription	10	0	0	0	6	0
26th March	Coolangatta	Prescribing dangerous drugs for self administration	2	0	0	0	6	0
			71	8	0	2	8	0

ENVIRONMENTAL SANITATION.

The Local Authorities are charged with the administration of those parts of "*The Health Acts*, 1937 *to* 1949," and relevant regulations relating to environmental sanitation. Reports from officers of this department who have visited most parts of the State, and the quarterly reports received from Local Authority inspectors, show that generally Local Authorities are alive to their responsibilities in health matters. This is reflected in the progress made in such matters as the installation or extension of sewerage, improved water supplies, better nightsoil removal services, and mosquito eradication.

The progress made in environmental sanitation depends on the funds allocated for the purpose, on well laid plans, and on the efficiency and conscientiousness of the field staff, so that the best results can be obtained for the money expended. Many Local Authorities do allocate sufficient funds and employ a good staff to carry out sound plans, but there are still Local Authorities who reduce health expenditure to the bare minimum, and consequently have a poor health service.

The absence of infectious disease in an area is not an indication that these diseases are under control. It may merely mean that infectious disease is not present in the area, and, if environmental sanitation is not good, the introduction of an infectious disease could result in a serious epidemic. No Local Authority, having the good health of its residents at heart, can afford to neglect or relax its vigilance in safeguards to health.

Preventive medicine enlists the aid of nearly all sciences, and in environmental sanitation, most of the field work, or the practical application of the knowledge gleaned from science, is entrusted to health inspectors.

Some Local Authorities employ more than one inspector, others employ only one, while in other instances two or more Local Authorities have formed a joint area employing one inspector. There are still some Local Authorities without an inspector. This is due mainly to the continued shortage of qualified inspectors.

It is considered that in many instances more inspectors could be employed to advantage and that some of the large joint areas could be split up. But until more qualified inspectors are available and the vacancies are filled, little can be done to effect any improvement in this direction.

There are vacancies for health inspectors in seven (7) shires and two (2) joint areas in the western, central-western and northern parts of the State.

The distribution of inspectors throughout the State is as follows:—

City of Brisbane—1 chief and 1 deputy chief inspector, 21 inspectors and 5 assistant inspectors	28
Cities and towns	32
Shires employing one or more inspectors	27
Joint areas	24
Total	111

Nightsoil Removal and Disposal.—Sewerage has been commenced in some centres and others are contemplating its installation. In the absence of sewerage, the removal and safe disposal of human wastes is a big problem for many Local Authorities. Some perform this task by day labour, but most of them contract for the performance of this essential service. In general, where the Local Authority undertakes the work itself, it is performed much more satisfactorily than by contractors.

The efficiency of the service for the collection and disposal of nightsoil would appear to vary inversely to the number of premises attended. This is particularly so in regard to the disposal of nightsoil. With large quantities of nightsoil to be buried the tendency is to overfill trenches, which when covered with earth result in surface pollution of the soil surrounding the trench. It is in this polluted soil that much fly breeding takes place.

Another source of fly emergence at sanitary depots is the fly larvae which are deposited in the burial trenches with nightsoil. The eggs from which these larvae hatch are laid while the pan is in the closet. Householders could do much to reduce this breeding if they ensured that cabinet pansteads were kept in good order and fly-proof.

However, it is pleasing to note that many Local Authorities are now supervising the collection and disposal of nightsoil with more satisfactory results.

Refuse Collection and Disposal.—Whilst it is noted that the service of collecting and removing refuse by Local Authorities has possibly shown an improvement in some areas, there are still many areas where the disposal of the refuse cannot be regarded as safe.

More refuse bins have become available and have been put into use, but reports are still received of premises with not enough bins or none at all.

At many Local Authority refuse tips, little or no effort is made to conduct the disposal in a sanitary manner. Refuse is left uncovered until earth-moving equipment is available to push earth over it. During this time, flies, cockroaches, rats, and possibly mosquitoes have unrestricted access to suitable breeding and feeding places. With few exceptions there is not any serious effort made to prevent this occurring by controlled tipping or incineration.

The Cities of Ipswich and Toowoomba are the only Local Authorities to use incinerators.

Some particularly effective chemicals have been made available for general use as insecticides. Their effectiveness has been so startling that great reliance has been placed on their use, often to the neglect of good sanitary practice. However, evidence is accumulating that many types of insects have developed a resistance to these chemicals, so that a return to good sanitation is necessary.

Plague Precautions.—Local Authorities on the seaboard are aware of the necessity to keep a constant watch for the introduction of plague. Men are employed to trap and bait rats, the greatest number being in Brisbane, where 40 men were engaged in rodent control at the end of the year. But there are still Local Authorities who do no more than make baits available to householders. In these areas, little effort is made to starve or build out the rodent, which is not only a serious menace to health, but the cause of economic loss.

In the Brisbane City area, the wharves and river walls were constantly and regularly patrolled and baited; 257,650 baits were laid on river walls and 630 rats were known to be killed; 185,450 baits were laid on wharves and 1,033 rats were destroyed.

Table XXXIV. shows the numbers of rats and mice caught and destroyed in the nine cities in the coastal area.

TABLE XXXIV.

Area.	Rats.	Mice.
Brisbane	55,928	3,650
Bundaberg	649	..
Cairns	1,980	322
Gympie	206	..
Ipswich	2,026	..
Mackay	1,165	1,029
Maryborough	591	129
Rockhampton	4,433	..
Townsville	3,127	260
Totals	70,105	5,390
Total all rodents	75,495	

Early in the year, the practice of forwarding smears, except from airfields and wharves, for examination at the Department's Laboratory in Brisbane or at Commonwealth Laboratories was discontinued, as such examinations were considered unnecessary, but rodents from the Brisbane City area are still examined at the Laboratory of Microbiology and Pathology; 12,887 rodents were examined and 433 were fully dissected and 433 spleen smears examined.

Cairns District.—In some remote country centres, the collection and disposal of nightsoil was not entirely satisfactory, but generally speaking, this essential service was carried out efficiently. However, except for the City of Cairns, the refuse removal and disposal service is most unsatisfactory.

Most Local Authorities are diligent through their inspectors in carrying out house-to-house inspections to ensure the removal of fly and rat-breeding refuse from town allotments.

Local Authorities are to be commended for their efforts in mosquito eradication in their areas. Several schemes were partially or wholly completed during the year.

The drainage system installed at Cairns during the war to combat a serious epidemic of malaria, was further seriously damaged and silted up by the annual flood waters. It is apparent that this drainage system must be made a more permanent system if it is to survive future wet seasons. It is hoped that negotiations now in progress will result in the construction of a permanent drainage system.

The Eacham Shire completed the Malanda water supply during the year. Chlorinated water supply schemes were commenced at Kuranda and Mount Mulligan, in Mareeba Shire and at South Johnstone in Johnstone Shire.

Several shires have improved camping facilities on various beaches in their areas.

Mackay District.—The collection and disposal of nightsoil by Local Authorities or contractors in this district, with one exception, have been satisfactory. It is hoped that in this one instance an improvement will soon be effected as a result of action by the Local Authority.

The controlled tipping of refuse has been neglected but efforts are being made to improve on present methods.

All seaside camps were inspected over the holiday periods and all were found to be in good order, except in one instance, where the complaint was promptly attended to.

Rockhampton District.—In the City of Rockhampton, the sewerage system was extended. It is hoped that the rate of new connections will soon overtake the extension of pan removal services to expanding residential areas.

The collection and disposal of nightsoil was generally satisfactory throughout this district.

While some Local Authorities have improved refuse removal by providing refuse bins and improved tips, others still leave much to be desired in these respects.

The Mount Morgan water supply progressed to a stage approaching reticulation.

Holiday camps were inspected over the holiday periods and were found to be well conducted.

Several Local Authorities have undertaken mosquito eradication projects, most of this class of work, however, being in the City of Rockhampton.

Toowoomba District.—The standard of the services provided throughout the district for the removal of nightsoil and refuse was maintained at a safe and satisfactory level.

Some refuse removal services in small centres of population were not found to be operating efficiently, lack of suitable bins and irregular collections being the principal faults.

Some refuse tips, particularly in the large pastoral areas, are still poorly conducted, no effort being made to establish controlled tipping and effective covering.

The Stanthorpe water supply has reached the stage where some connections have been made.

At Goondiwindi, it has been found uneconomical to operate the newly-installed filtration plant continuously. It will now be operated only if the McIntyre River is turbid, but the chlorinator is in continuous use.

Mosquito eradication works are in progress at Dalby, Stanthorpe, and Toowoomba, and good progress is being made in each area.

Townsville District.—Generally the collection and disposal of nightsoil has been satisfactorily carried out in this district, but one Local Authority has seen fit to discontinue these essential services in two centres in its area, leaving the residents to resort to cesspits or private burial of nightsoil. This is a retrograde step.

Sewerage has been extended at both Townsville and Hughenden.

Inspections of the principal coastal resorts in this district were made prior to the summer holidays, and, with the exception of those in the City of Townsville, were found to be very satisfactory.

Samples of fibre used in mattress re-making have been obtained during regular inspections of the re-maker's premises. Advice has been given him to improve the cleansing of previously-used fibre.

In addition to a large programme of works for the permanent eradication of mosquito breeding places, the Townsville City Council undertakes the regular spraying and miscellaneous control measures.

Mosquito Eradication.—Local Authorities are still availing themselves of the Government subsidy of 50 per cent. of the cost of permanent mosquito eradication. Much good work has been done throughout the State during the year.

The following table shows the subsidies granted to Local Authorities for mosquito eradication during the year 1952-53:—

TABLE XXXV.

Local Authority.	Amount Granted.
	£
Brisbane City Council	55,383
Cairns City Council	7,826
Gympie City Council	285
Ipswich City Council	650
Mackay City Council	2,000
Rockhampton City Council	682
Toowoomba City Council	625
Townsville City Council	5,500
Dalby Town Council	3,500
Redcliffe Town Council	6,920
Blackall Shire Council	1,591
Burrum Shire Council	3,000
Eacham Shire Council	152
Herberton Shire Council	151
Hinchinbrook Shire Council	140
Johnstone Shire Council	596
Livingstone Shire Council	750
Millmerran Shire Council	25
Mundubbera Shire Council	1,128
Stanthorpe Shire Council	2,979
Total	93,883

Camping Areas and Seaside Resorts.—Departmental inspectors inspected the main seaside camping areas and public resorts before the Christmas-New Year season began, and again, during the peak of the holiday period. Their reports show that many Local Authorities are maintaining a good standard of hygiene at these places, but there are still some who seem loath to provide the essentials of good safe sanitary conveniences and a safe and adequate water supply at seaside camp sites.

Swimming Pools.—In most swimming pools, efforts are made to maintain a small residual free chlorine content to keep the water as free from pathogenic organisms as possible. Unless modern equipment is in use, this is not a simple matter to control.

Departmental officers have tested water at swimming pools to ascertain how successfully the chlorine has been applied. In cases where the amount was insufficient, the attention of the person in charge was directed to the deficiency.

The following table shows the results of the tests:—

TABLE XXXVI.

Class of Pool.	Number of Tests.	Number Passed.
Municipal Pools	46	44
Private Pools	16	11
State School Pools	42	39
Totals	104	94

The Bedding and Upholstery Regulations, 1948.

These regulations were gazetted in 1948 to protect not only the public, but the employee engaged in the manufacture of upholstered articles, against dangers in the use of unclean materials. This danger is greatest where previously-used materials are used, particularly in re-making.

Since the gazettal of the regulations, efforts have been made to have manufacturers use clean materials. During this year, it became apparent that a few had no intention of improving their methods, and proceedings were instituted against two manufacturers. Warnings of legal proceedings were given to others.

In each of the two prosecutions, the defendants pleaded guilty, and each was fined £3 and ordered to pay £1 1s. analyst's fee and 6s. costs of court.

The following table gives the results of analysis of samples taken:—

TABLE XXXVII.

LEGAL SAMPLES.

Material.	Number of Samples.	Chlorine.		Ammonia.		Turbidity of Wash Water.	
		Passed.	Failed.	Passed.	Failed.	Passed.	Failed.
Fibre	21	17	4	14	7	21	..
Flock	4	4	..	4	..	4	..
	25	21	4	18	7	25	..
Per cent. passed	..	84·0%		72·0%		100%	

UNOFFICIAL SAMPLES.

Material.	Number of Samples.	Chlorine.		Ammonia.		Turbidity of Wash Water.	
		Passed.	Failed.	Passed.	Failed.	Passed.	Failed.
Flock	13	10	3	9	4	11	2
Fibre	18	13	5	10	8	16	2
Cleaning Cloth	2	1	1	2	..	2	..
Kapok	2	2	..	1	1	1	1
Cotton Linters	1	..	1	1	..	1	..
Total	36	26	10	23	13	31	5
Per cent. passed	..	72·2%		63·89%		86·1%	

Inspection of Licensed Premises.—Officers of this department have continued to keep a watch on the general sanitation of hotels throughout the State, and, where necessary, conditions have been reported to the Licensing Commission for action.

Barbers' Shops.—Early in this fiscal year, amended regulations for barbers' shops were gazetted. The regulations provided that Local Authorities should superintend the enforcement of this law.

Supervisory inspections by officers of this department show that Local Authorities generally are assuming their responsibility in this respect and maintaining a good standard of cleanliness in barbers' shops.

SECTION OF HOOKWORM CONTROL.

Microscopist in Charge, S. Thompson.

General.

During the year, the microscopist visited Lockhart River Mission. All persons found positive for hookworm were treated and re-examined. Of the 271 examined, 128 (47 per cent.) were found to be harbouring hookworms, and the children, three years of age and under, were treated in the hospital. At the completion of the survey, arrangements were made with the sister at the hospital to send specimens of uncured hookworm hosts to Cairns by plane until such time as they have been cured.

A re-survey of Monamona Mission was carried out at the request of the Superintendent, and it was pleasing to see the low incidence of hookworm prevailing there. This is due to the fact that the sanitary conveniences and the sanitary depot have been brought up to standard. Every endeavour is being made to have all uncured hookworm hosts at the Hopevale Lutheran Mission treated to a cure. A large number of children under 3 years of age have received several treatments.

Mass treatment of aboriginals has been carried out at Cairns, Mossman, Cooktown, Bloomfield River camps, and Lockhart River Mission areas.

Surveys of school children have also been carried out in the Cairns, Mossman, Bloomfield River and Innisfail areas. Of the 2,594 school children examined, 57 (or 2·2 per cent.) were positive for hookworm and 305 for other parasitic worms. Most of the infested hookworm children were aboriginals.

Of the 4,008 specimens examined from all areas, 463 were positive for hookworm, and 170 of the hookworm hosts were treated to a cure. It was found that 701 specimens contained ova of parasitic worms, namely *Enterobius vermicularis, Tricocephalus trichiurus, Hymenolepis nana* and *Trichostrongylus* spp. Most of the patients suffering from *Trichostrongylus* came from Monamona Mission, and on investigation, it was found goats had polluted the water supply. This has now been rectified.

The school sister at Innisfail, following a course of five weeks in microscopy, will now carry out examination of specimens in her area.

Arrangements have been made with the medical officers of district hospitals to treat persons heavily infested with hookworm, and carry out subsequent follow-up. Children, three years of age and under, lightly infested, are also treated in hospital.

Sanitary inspections were carried out in the Mareeba and Mulgrave Shire areas, and reports were forwarded to the Local Authority who issued the necessary notices.

Table XXXVIII. shows the incidence of hookworm disease in each area, and the nature of the work carried out.

TABLE XXXVIII.

Showing Details of Specimens examined during 1952–53.

Area.	Total.	Specimens.					Treatments.			
		Received.	Examined.	Re-examined.	Positive.		Notices.	Delivered.	Posted.	Cured.
					H.W.	Others.				
Cairns Area—										
Schools	697	702	689	13	20	75	73	15	8	6
Mossman Area—										
Schools	252	247	246	1	4	43	43	..	4	1
Daintree Area—										
Schools	..	3	..	3	3	3	3	3	..	..
Bloomfield River Area—										
Schools	27	26	26	..	17	15	..	..	..	..
Innisfail Area—										
Schools	1,734	1,616	1,611	5	13	169	143	2	5	4
School Total	2,710	2,594	2,572	22	57	305	262	20	17	11
Other Hosts in—										
Cairns Area	..	3	..	3	1	..	..	1	..	2
Hopevale Lutheran Mission	..	1	..	1	..	..	..	..	..	1
Innisfail Area	..	1	..	1	1	..	..	..	..	..
Other Hosts Total	..	5	..	5	2	..	..	1	..	3
Miscellaneous—										
Cairns Area	145	145	145	..	5	13	12	4	2	..
Monamona Mission	31	31	31	..	..	2	2	..	..	..
Mossman Area	18	18	18	..	1	2	2	1	..	..
Cooktown Area	5	5	5	..	..	..	..	..	..	..
Hopevale Lutheran Mission	9	9	9	..	1	2	2	1	..	..
Bloomfield River	17	17	17	..	..	..	..	..	..	..
Lockhart River Mission	9	9	9	..	..	1	1	..	..	..
Innisfail Area	56	56	56	..	1	7	7	..	1	..
Tully Area	4	4	4	..	..	..	..	..	..	..
Ingham Area	11	11	11	..	..	..	..	..	..	..
Miscellaneous Total	305	305	305	..	8	27	26	6	3	..

TABLE XXXVIII—*continued.*

Showing Details of Specimens Examined During 1952–53.

Area.	Total.	Specimens.					Treatments.			
		Received.	Ex-amined.	Re-examined.	Positive.		Notices.	Delivered.	Posted.	Cured.
					H.W.	Others.				
Aborigines—										
Cairns Area ..	23	38	23	15	18	12	11	18	..	2
Cairns Reserve, Lyons street	11	11	11	..	1	3	3	1	..	..
Cairns Reserve, Spence street ..	83	69	69	..	5	19	19	5	..	..
Yarrabah Mission ..	6	27	6	21	9	9	9	5	4	12
Monamona Mission	256	264	256	8	15	47	47	15	..	8
Mossman Area ..	13	16	13	3	11	7	7	11	..	..
Mossman Gorge Reserve	54	54	54	..	16	28	1	16	..	..
Cooktown Area ..	10	10	10	..	7	..	..	7	..	..
Cooktown Reserve	..	..	..	..	..	..	..	121	..	..
Hopevale Lutheran Mission	30	30	30	..	16	11	11	15	..	.. ..
Hopevale Lutheran Mission	..	113	..	113	81	36	36	81	..	32
Bloomfield River Camps	20	20	20	..	14	..	..	132	..	..
Coen Area	7	12	7	5	5	1	1	..	4	3
Lockhart River Mission	275	271	271	..	128	196	..	128	..	..
Lockhart River Mission	..	169	..	169	70	..	..	70	..	99
Aborigines Total..	788	1,104	770	334	396	369	145	625	8	156
Cairns Area	959	968	937	31	50	122	118	44	10	10
Yarrabah Mission ..	6	27	6	21	9	9	9	5	4	12
Monamona Mission ..	287	295	287	8	15	49	49	15	..	8
Mossman Area ..	337	335	331	4	32	80	53	28	4	1
Daintree Area.. ..	..	3	..	3	3	3	3	3	..	..
Cooktown Area ..	15	15	15	..	7	..	..	128	..	..
Hopevale Lutheran Mission	39	153	39	114	98	49	49	97	..	33
Bloomfield River Area	64	63	63	..	31	15	..	132	..	..
Lockhart River Mission	284	449	280	169	198	197	1	198	..	99
Coen Area	7	12	7	5	5	1	1	..	4	3
Innisfail Area ..	1,790	1,673	1,667	6	15	176	150	2	6	4
Tully Area	4	4	4	..	..	..	..	..	..	..
Ingham Area	11	11	11	..	..	..	..	..	..	..
Total	3,803	4,008	3,647	361	463	701	433	652	28	170

Number of treatments administered in hospital—Cairns 14, Mossman 17, Cooktown 7.

TABLE XXXIX.

Mulgrave Shire Council.

—	Cairns Area.
Number of places visited	507
Number of sanitary conveniences inspected	605
Number of defective privies	276
Number of places without sanitary convenience	1
Septic tanks	254

Mulgrave Shire Council.

—	D. Class.	G. Class.	E. Class.	F. Class	H. Class.
Pails ..	76	196	79	1	..
Pits ..	..	..	..	..	..
Septic ..	253	..	1	..	..

Mareeba Shire Council.

—	Cairns Area.
Number of places visited	67
Number of sanitary conveniences inspected	101
Number of defective privies	49
Number of places without sanitary convenience	2
Septic tanks	39

Mareeba Shire Council.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	13	43	6	2	..
Pits ..	..	..	..	..	..
Septic ..	39	..	..	..	..

D. Class—Regulation cabinet.
G. Class—Below standard, but not allowing soil pollution.
E. Class—Allowing soil pollution.
F. Class—No sanitary convenience.
H. Class—Soil pollution in evidence at time of inspection.

DIVISION OF TUBERCULOSIS.

Director: E. W. Abrahams, M.D. (Melb.), M.R.C.P. (London.).
Medical Officer: E. M. Rathouse, M.B., Ch.B. (Cape Town).

The biggest step forward in the campaign against tuberculosis since its formation was the opening of the Chest Clinic on 9th August, 1952. In the 11 months since that date, 36,071 X-ray films have been taken, including small and large films.

The new block at the South Brisbane Auxiliary Hospital for chronic medical cases was completed, and accommodates 80 cases of tuberculosis.

The shells of the pre-fabricated buildings at the Chermside Chest Hospital are completed, and interior work is well under way. Occupation of the pavilion section (180 beds) is expected during the coming year. This is the first stage in the establishment of the hospital. Tenders for the main structure have been considered by the Hospitals Board and have been forwarded to the Commonwealth Department of Health. Building should commence as soon as these are finalised.

The building of the combined tuberculosis annexe and pathological laboratory at Cairns is progressing well and should be completed early in the coming year. A similar building has also been started at Townsville, and should be completed before the end of the present financial year.

Plans are in their final stages for annexes at Rockhampton, Toowoomba, and the Aboriginal Hospital, Cherbourg, and it is anticipated tenders will be called in the near future.

Mass Radiography.—Miniature photo-fluorography is now available at the Chest Clinic, Brisbane, where it is used in surveying the general public, and at the Brisbane and Toowoomba Hospitals where it is used primarily for the routine X-raying of hospital in- and out-patients. In Toowoomba, however, anyone who so desires can be X-rayed at the Toowoomba Hospital.

Table XL. sets out the results of the campaign for the past year:—

TABLE XL.

—	Chest Clinic.	Brisbane General Hospital.	Toowoomba General Hospital.
Total Micro Films ..	32,687	29,950	4,391
Recalled for further X-ray	1,603	1,368	112
Active cases with positive bacteriological findings ..	138	96	3

Staff has been engaged for the transportable mass radiography unit and operations will be commenced in July. This unit is intended primarily for country districts and is of the "transportable" variety. It is carried in a 5-ton truck, has its own electricity generator and is planned to cope with the long distances, bad roads, and variable electricity supplies of rural Queensland.

Treatment.—The increase in the number of cases found as a result of the campaign has necessitated the establishment of a domiciliary care service as there are as yet insufficient beds available. This service is carried out in co-operation with private practitioners. It is appreciated that the best treatment is given in a good sanatorium, but it has been possible to diagnose and treat with modern anti-tuberculous drugs many patients for whom beds are not available. In addition, their contacts are investigated and, where indicated, protective treatment with B.C.G. vaccine is given, while education of both patient and contact is carried out.

In the Brisbane area, the Clinic sisters have supervised the home care of 100 cases, most of whom have required twice weekly injections of streptomycin. Most of these cases were admitted to hospital as beds became available.

Treatment in North Queensland continues to improve, and the appointment of a specialist physician to the staff of both the Townsville and Cairns Base Hospitals has done much to systematise the care of cases in these areas.

There are 125 native cases of tuberculosis registered at Thursday Island; 61 are accommodated in the Waiben Sanatorium, 14 in the General Hospital, and the remainder receive out-patient treatment. No applications were received for the position of Tuberculosis officer for this area, and because of this, a case-finding survey and prophylactic treatment have not been carried out since the survey in 1950-51.

Westwood Sanatorium continues to treat cases in the Central Queensland area.

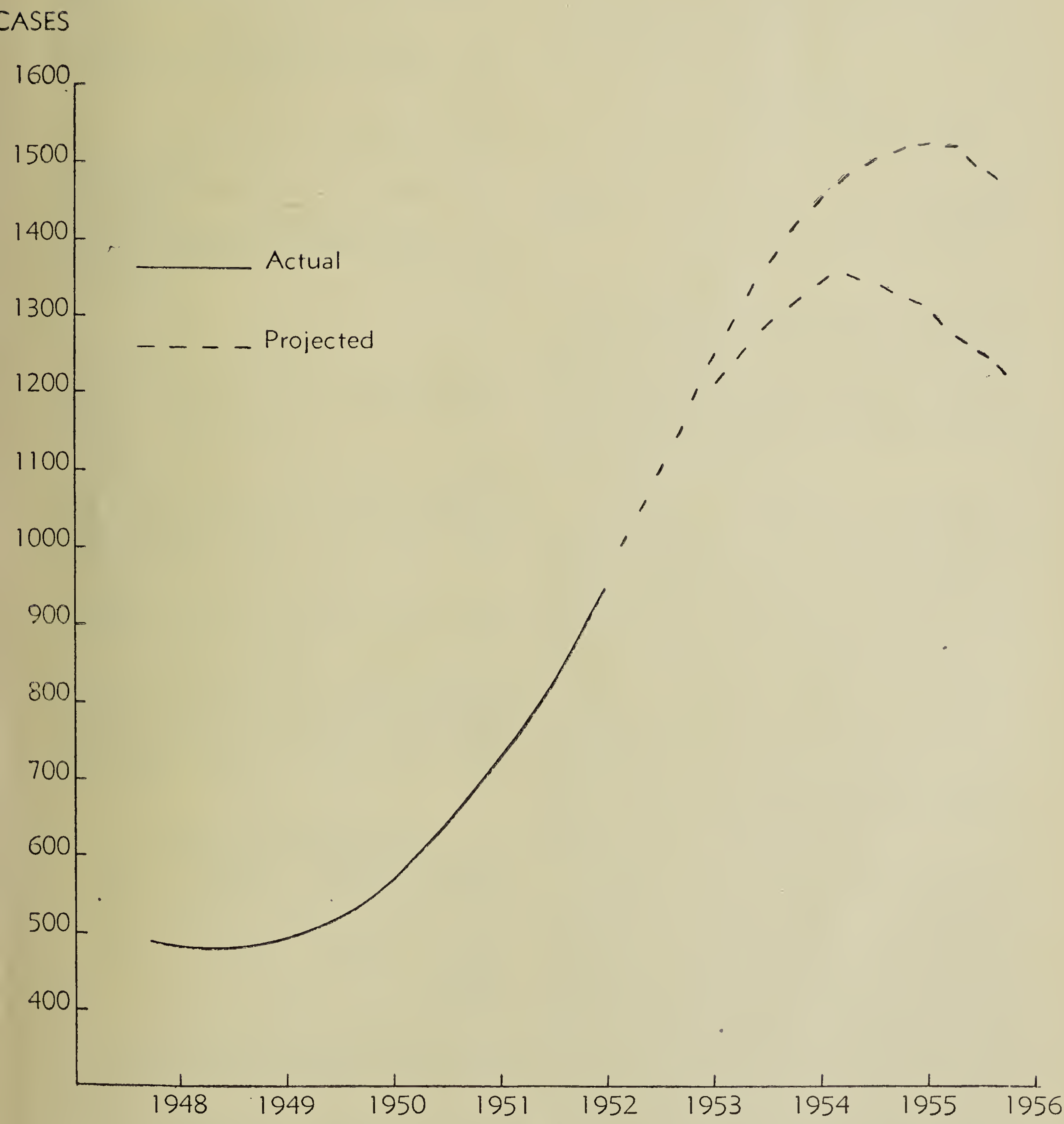
Table XLI. sets out details of the case register:—

TABLE XLI.

Case Register—			
Notifications for 1952/53—			
Metropolitan		494	
Country		449	
Total			943
Metropolitan—			
Added to register	290 males	147 females	
Cases on register	911 males	501 females	
Total			1,412
Country—			
Added to register	241 males	130 females	
Cases on register	769 males	388 females	
Total			1,157
Total number cases on register			2,569

219 Aborigines of both sexes are included in the above figures.

TREND OF T.B. NOTIFICATIONS.



Depending on the amount of case finding the notifications should lie between the two curves shown.

FIGURE 2.

The notifications show a steady increase over the past three years and, on the data available, a probability curve for the notification rate has been prepared. In drawing up this curve no allowance has been made for the factor of continued immigration. A rise to 1,200-1,500 cases per year (see graph) is expected with increased case finding. This does not mean an increase in the incidence of disease, but merely that unknown cases are now known cases.

In the September quarter of 1952, an analysis of cases notified in the metropolitan area was made. The figures are as in Table XLII.:—

TABLE XLII.

METROPOLITAN NOTIFICATIONS—SEPTEMBER, 1952–DECEMBER, 1952.

Source.	Number.
Micro-Radiography	55
Micro-Radiography—Referred by private practitioners	20
Chest Clinic (contact supervision, &c.) ..	11
Hospitals (including repatriation and mental)	35
Private practitioners	16
Other sources	10
Total	147

This shows that much of the rise in metropolitan figures is due to a deliberate case-finding campaign and not to an increased incidence of the disease.

Prophylaxis.—The investigation of contacts outside the metropolitan area continues to present difficulties, and, until the establishment of tuberculosis officers in the main country centres, will continue to do so.

Local authorities have been advised of the necessity for contact supervision but it cannot yet be considered adequate.

In the metropolitan area, contact supervision continues to be one of the chief functions of the Chest Clinic and contacts for metropolitan cases are continually advised when they are due for X-rays, Mantoux testing and B.C.G. vaccination.

TABLE XLIII.

MANTOUX TESTS, 1952–1953.

Total.	Positive Reactors.	Negative Reactors.	B.C.G. Vaccinations.
4,551 ..	2,045 44·9%	2,506 55·1%	1,677 66·9% of those negative

In addition, 4,521 National Service trainees have been skin tested and 3,812 vaccinated with B.C.G.

B.C.G. continues to be offered to the nursing staff of hospitals, to medical and dental students, physiotherapists and other groups at risk. It is of interest that, in the past two years at the Brisbane General Hospital, the only new case of tuberculosis in a nurse has been in a Mantoux negative reactor who did not receive B.C.G. and who subsequently developed a pleural effusion. There have been no cases in B.C.G. protected nurses.

Tuberculosis Allowances.—The Commonwealth Tuberculosis Allowance scheme, for which the State Director is the medical referee for Queensland, continues to be of great help to sufferers from tuberculosis, as it enables them to stop work and undergo treatment.

At 30th June, 651 persons were on tuberculosis allowance as follows:—

TABLE XLIV.

——	Males.	Females.	Total.
In institutions	227	67	294
At home	262	95	357
	489	162	651

These figures have not increased during the year although the notifications have risen. This is hard to explain, as all notified cases are forwarded claim forms for the tuberculosis allowance when their notifications are received by the Division. In spite of the liberal means test, many (e.g., married women whose husbands are earning) are ineligible.

Rehabilitation.—Rehabilitation continues to present difficulties. The Commonwealth Social Services Department is of assistance in the sputum negative cases, but no provision is made for the "good chronic" who is infectious, but not ill, and who, in suitable workshops, can earn his own living. The answer for these people is a sheltered workshop or a colony.

There is increasing difficulty in obtaining suitable employment for treated cases, due to the general shortage of employment, particularly for men who have no skilled trade, and those in the older age group. It is to be hoped that, in any full employment scheme, consideration be given to the employment of partially-disabled persons where possible.

In the last annual report, mention was made of the latest "wonder drug" for tuberculosis, Isoniazid, from which, at that time, much was expected in some quarters. It can now be stated that, though it is of value in the management of some cases of tuberculosis, it has not materially affected the possibility of eliminating the disease from our community. This must still depend on the well-recognised principles of case finding, contact supervision, and the breaking of the cycle of infection by either treating and making non-infectious, isolating, or educating to be non-dangerous, of sputum positive cases and it is along these lines that our efforts should be directed.

DIVISION OF INDUSTRIAL MEDICINE.

Director of Industrial Medicine: Douglas Gordon, M.B., B.S. (Q'ld.).

Inspector in Charge: Weil's Disease Control: J. M. Kennedy.

During the past year the following matters have been dealt with by this Division:—

1.	Reports submitted on industrial premises, industrial health hazards or to a less extent on administrative matters ..	58
2.	Clinical reports, reports concerning laboratory investigations, &c., to medical practitioners, the Insurance Commissioner, &c.	575
3	Clinical examinations, other than regular routine ones	107

Mention of Some Matters of Interest Which Received Attention.

Methods of transporting sulphuric acid in safety.

Use of corundum abrasive powders for blasting letters on tomb-stones.

Hazards, if any, associated with the making of zinc oxide.

The use of benzol in leather finishes.

The making of buttons from pearl shell.

The use of arsenic in the tobacco industry.

An effort to find out why men will not use protective goggles.

Investigation of a smelter in North Queensland in which lead was used to extract tin from low grade tin ore.

The use of metallic lead in a finely-divided state in the manufacture of fluxes.

The problems of heat and humidity in a deep mine in the tropics.

Problems of ventilation in the P.M.G. mailmen's room.

The use of gammexane and organic mercurials in seed dusting.

The incidence of respiratory disorders in meat workers.

Dermatitis among operators whose hands were heavily stained with addressograph ink.

Whether milk should be given to welders and lead workers.

Injuries to the eye caused by nematode fumigant known as D.D.

Arsenical sprays in banana plantations.

Ventilation of large city retail stores.

Solvent hazards in tyre manufacture.

Use of grit as a blasting abrasive in petrol depots.

Amyl Alcohol in laboratory work as a possible hazard.

A death which was due, as alleged, to the use of chlorphenates.

The question as to whether a lactating woman, if bitten by a poisonous snake, excretes the toxin in her milk.

Dust hazards in bulk handling of wheat.

Hazards, if any, of the handling of niacin in chemical manufacture.

Regulations to control the use of gas in banana ripening rooms.

Possible "oxygen poisoning" in pineapple ripening rooms.

Sulphur dioxide irritation in a photographic dark-room.

Dust in a fertiliser works.

Lead hazards in shipyard welding.

Use of dieldrin and toxaphene in tobacco.

Phenol burn in a painter.

Typhoid fever in a sanitary worker.

Cold hazard in the freezing of chocolate-coated ice-cream.

The efficiency of water atomisers to suppress coal dust.

Protection of painters using bitumastic paint.

The protection of men ripening bananas with domestic coal gas.

The use of ethylene dibromide as a fumigant of citrus fruit.

The hazards of the dry cleaning industry.

Papers and Lectures.

A paper was given by the Director of Industrial Medicine on "Occupational Skin Disease" as part of a symposium at the British Medical Association Congress in Melbourne. Lectures were delivered to medical and engineering students, and eight field days were spent with medical students at the Ipswich Railway Workshops. In addition, evidence was given before the "Education of Apprentices" Commission.

Industrial Toxicology.

Lead.—The monthly routine stippled cell examinations of men in the metropolitan area exposed to serious lead hazards have continued satisfactorily. On odd occasions in country towns, such examinations have been done by State hospitals or by Commonwealth Health Laboratories. In a remote country town where laboratory facilities did not exist, a number of men proposed to smelt lead, and this Department arranged to pay the nearest medical practitioner, 20 miles away, to take blood films and forward these to the laboratory here. The smelting operations, however, were abandoned, due to economic reasons, and this health supervision by remote control did not have to function. On another occasion, the District Mines Inspector acted on behalf of this section and arranged for various isolated lead prospectors to have the necessary laboratory investigations performed at the nearest Commonwealth Health Laboratory. Since the distances involved were considerable, this Department issued free rail warrants. Although this State is far flung, it is felt that in practically every case where a man is exposed to a really serious industrial hazard, some form of medical supervision could be provided for him.

Though from time to time men examined have shown results suggesting lead absorption sufficiently great to warrant their temporarily being shifted to a non-lead process, the number who have suffered symptoms or disability has been very low.

In the last few months of the year, attention was drawn to an old familiar hazard which has re-appeared. Ship repair work, as distinct from new ship building, has become fashionable once again. If the ship was built in the pre-war era, it is probably painted with lead pigments, and if boiler-makers, &c., weld on such surfaces, particularly in confined spaces, concentrations of lead in volatile form become dangerously high. Some seventy men so exposed were examined for the first time recently and about ten per cent. had to be shifted to welding on unpainted surfaces, because of signs of dangerously high lead absorption. It is a hazard which will require strict supervision and careful control, mainly by local portable exhaust ventilation and regular medical supervision.

While the above wears a familiar mien, the following hazard is a new one. A new Australian, endowed with initiative and ingenuity, set out to manufacture various welding and soldering fluxes, some of which involved the use of metallic lead in a finely divided state. To obtain the latter, he allowed molten lead to run out through a pipe, and just as it emerged, it was submitted to a blast of compressed air which broke it up and distributed it as a fine metallic powder. This took place in a small portion of an old air-raid shelter so built up that there was practically no general ventilation whatsoever. Since in practice the operator had to stay in the room to adjust the apparatus, the hazard was a bad one. The self-employed patient was found to have an extremely low haemoglobin and had renal involvement, as well as the usual signs and symptoms of lead poisoning. He is still sick.

Unfortunately, the warning in last year's report about the increasing use of lead paint may be coming true. Several non-industrial cases of lead poisoning have been reported during the year.

Arsenic.—At least four cases of severe chronic arsenical poisoning were seen during the year. Two of these were not of industrial origin. The more one sees of this disease the more one fears it as a poison with the ability to inflict irreversible crippling peripheral neuritis. It seems from clinical observations that BAL has little effect on the progress of a neuritis once established.

One patient presents a difficult problem. He was exposed to heavy concentrations of arsenic for twelve years, and two years ago, became disabled with clinical arsenical poisoning. He is still excreting abnormally high amounts of arsenic in his urine after all this time, and in spite of close investigation, no present exposure to arsenic can be discovered. He is still feeling decidedly unwell.

Insecticides.—The newer insecticides—parathions, dieldrin, &c., and various weedicides and fungicides—di-nitro-ortho-cresol, chlorphenates, &c.—have been receiving close attention. Rumour was heard that one man had been mildly affected with a parathion, but this was not confirmed. One woman with suicidal intent ingested about one fluid ounce of a parathion concentrate and died in about fifteen minutes. There was an alleged death from a chlorphenate, but the autopsy did not support the allegation. In a tropical and sub-tropical country, it is doubted whether the various all-enveloping protective clothing, generally recommended for use with the parathions, would be the least bit practical, and it is doubtful whether rural workers in Queensland could be persuaded to use it.

Pneumoconioses.—Use of the micro-film units at the Brisbane General Hospital and at the Chest Clinic found one patient with silicosis in a former abrasive soap worker, and one as the result of working in a quarry which has produced two other cases. This quarry—now fortunately closed—used dry drilling in rock having a high free silica content.

Generally, however, the incidence of pneumoconiosis is low, and confined mainly to older men who have worked in long defunct gold fields, to coal-miners who have done a lot of work in stone drives or who have worked in overseas pits, and to a group of patients with doubtful chest films in which it is difficult to say whether their disability is due to a diseased heart, chronic bronchitis or early pneumoconiosis. This opinion is borne out by micro-films taken of several hundred coal-miners from the West Moreton field.

While the micro-film would not reveal early cases, it would show advanced cases and give a fair indication of any large-scale incidence on the field. The micro-films to date have not shown anything to suggest that the dust concentrations are high.

This Division is combining with the Chest Clinic to pursuade members of various other industrial groups to get their chests X-rayed at the Clinic, and when the portable plant is ready, similar activities will take place in country centres.

A case of some interest to those who advocate regular radiological examination occurred during the year. Some ten years ago a number of steel dressers, working in the one country foundry, were discovered to have silicosis. Among them was one in his early thirties who was awarded workers' compensation. After some years of inactivity, he tired of the compensation life and voluntarily went back to work in a non-dusty job. He had been radiologically examined at approximately twelve monthly intervals. In March, 1952, his X-ray—a large film—was considered to have shown "no change," but in the light of the wisdom after the event, there is really a very early lesion at the left apex. In September, 1952, he was "rayed" again because he had become quite sick. This time there was a very well defined area at the left apex, and this grew so rapidly and his clinical condition deteriorated so markedly that, at the beginning of December, 1952, he was explored by a thoracic surgeon and a massive pulmonary carcinoma found. He died about a month ago. It would appear that annual radiographs do not guarantee the early diagnosis of pulmonary carcinoma. Another point of interest is that the left lung macroscopically showed no sign of silicosis, but in a microscopic section, there were a few small silicotic nodules, which must represent one of the earliest stages in the disease and a stage at which it could be expected that disability would be absent.

Accidents.—In each annual report attention is drawn to the ravages, social and economic, wrought by accidents. In the last year, the National Safety Council has obtained evidence that accidents are probably particularly high in sawmills and in young employees in metal trades. When, however, an endeavour is made to find out why, how and where these accidents are happening, the information cannot be obtained because of lack of necessary records. It is obviously hopeless to plan an anti-accident campaign without specific answers to these questions. A report has been submitted by the Director of Industrial Medicine on the number and cost of accidents in this State. The first step in an accident survey is to collect adequate reliable information and a recommendation is being made accordingly. The teaching of preventive medicine has been introduced into our primary schools, and it is hoped that the teaching of accident prevention will be introduced into our technical colleges because it is easier to teach the students good habits than to undo bad ones. A set of notes has been prepared which can be used as a basis for this teaching. One hundred thousand (100,000) men, women and children a year suffering some accident causing at least a day or two of total disability, a financial cost of at least £15,000,000 per annum and 600-700 deaths per annum is probably a conservative and fair estimate.

Fevers.—The number of patients suffering from "fever" is much the same as it was last year—an increase in cases north of the tropic and a slight increase in those south of it. Though the numbers are much the same, the work done by this Department's Laboratory in respect to these fevers has markedly increased. Discovery of the new strains of leptospirae has meant that each specimen of blood has to be submitted to more agglutination tests than were previously done, and culture work undertaken by the Queensland Institute of Medical Research has indirectly meant more work for this laboratory.

It is hartening to see the successes achieved by the Institute of Medical Research in co-operation with the Laboratory of Microbiology and Pathology in their various culture procedures for the leptospirae. This work, plus the availability of the new strains giving a wider range for agglutination tests, has resulted in a greatly increased number of diagnosed cases of fever as far as leptospirae are concerned. Though the total number of cases for North Queensland is much the same as it was last year, the infections within this group diagnosed as leptospiral are much more numerous. The numbers have almost doubled. The investigation is now usually more thorough. Two samples at least of blood are taken from most cases, and though this leads to a delay in finalising records the delay is willingly tolerated in the interests of scientific accuracy.

Unfortunately much of the exact epidemiology of leptospirosis as seen in North Queensland still remains a mystery but steady progress is being made. There are also obvious problems in diagnosis presented by the pyrexias of unknown origin which are also still with us in considerable numbers, but this year's advance in leptospiral diagnosis indicates a good chance of success.

TABLE XLV

LEPTOSPIROSIS.

	Cane Worker.	Non-Cane Worker.
Cooktown	..	5
Mossman	4	8
Herberton	..	1
Atherton Tableland	..	11
Cairns	1	5
Gordonvale	10	9
Babinda	25 (1 death)	13
Innisfail	32	18
Tully	2	9
Ingham	1	..
Bowen	..	1
Mackay	..	3
Total	75	83

P.U.O.

Thursday Island	12
Cooktown	1
Mossman	12
Herberton	3
Atherton Tableland	29
Cairns	13
Gordonvale	24
Babinda	18
Innisfail	71
Tully	35
Ingham	4
Townsville	35
Bowen	5
Mackay	26
Total	288

SCRUB TYPHUS.

Cooktown	5
Mossman	6 (1 death)
Herberton	1 (clinical)
Atherton Tableland	7
Cairns	9
Gordonvale	3
Babinda	4
Innisfail	4
Tully	9
Ingham	1
Mackay	1
Total	50

TICK OR MURINE TYPHUS.

Thursday Island	2
Atherton Tableland	4
Cairns	1
Innisfail	2
Mackay	1
Total	10

Q Fever.

Cooktown	1
Atherton Tableland	5
Gordonvale	1
Innisfail	1
Tully	1
Townsville	3
Mackay	3
Total	15

Brucellosis.

Atherton Tableland	1
Innisfail	2
Total	3
Total Cases North Queensland ..	524

TABLE XLVI.

Thursday Island.

Total Cases 14.

Month of Onset.	P.U.O.	Murine Typhus.
1952—		
July	1	..
August	1	..
September..	2	..
1953—		
January	..	1
February	1	..
March	1	..
April	3	..
May	2	..
June	1	1
Total	12	2

TABLE XLVII.

Cooktown.

Total Cases 12.

Month of Onset.	Leptospirosis (Non-Cane Workers.)	Scrub Typhus.	Q. Fever.	P.U.O. (Lack of Complete Investigation.)
1952—				
April	..	1	..	..
August	..	1	..	1
September ..	..	1	..	..
1953—				
January	2	..	..	..
February ..	..	..	..	..
March	2	..	..	..
April	1	2	..	..
June	..	..	1	..
Total ..	5	5	1	1

TABLE XLVIII.

Mossman.

Total Cases 30.

Month of Onset.	Leptospirosis.		P.U.O.	Scrub Typhus.	P.U.O. (Lack of Complete Investigation.
	Cane Worker.	Non-Cane Worker.			
1952—					
March ..	..	..	1	..	..
April ..	..	2	1	..	..
June	..	..	2	..	..
July	..	1	2	2 (1 death)	..
August ..	..	..	1	..	..
September 6	..	1	..	..	..
October ..	..	1	..	1	..
November ..	1	..	..	..	1
December ..	1	..	..	..	..
1953—					
January ..	..	..	..	1	..
February ..	2	..	1	..	..
March ..	..	1	..	..	..
April ..	..	1	3	1	..
May	..	..	..	1	..
June	..	1	..	..	..
Total..	4	8	11	6	1

TABLE XLIX.

Herberton.

Total Cases 5.

Month of Onset.	P.U.O.	Clinical Scrub Typhus.	Leptospirosis (Non-Cane Worker.)
1952—			
May	2	..	..
August	..	1	..
September ..	1	..	1
Total ..	3	1	1

TABLE L.

Atherton Tableland.

Total Cases 57.

Month of Onset.	Leptospirosis (Non Cane-workers).	P.U.O.	Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.
1952—						
May	..	1	..	..	..	..
June	..	1	..	..	..	..
July	..	1	..	..	..	..
August	..	4	..	..	1	1
September	1	4	1	..	3	..
October	2	..	..	..	..	..
November..	..	3	..	..	..	..
December	..	2	3	1	1	..
1953—						
January	2	..	..	2	..	..
February	2	4	..	..	..	..
March	2	4	1	..	..	..
April	1	3	1	..	..	..
May	1	2	1	1	..	..
June	..	..	..	..	..	..
Total	11	29	7	4	5	1

TABLE LI.

CAIRNS.

Total Cases—29.

Month of Onset.	Leptospirosis.		P.U.O.	Murine Typhus.	Scrub Typhus.
	Cane-worker.	Non Cane-worker.			
1952—					
April	..	..	..	..	..
May	..	1	..	..	..
June	..	..	..	..	..
July	..	..	2	1	3
August	..	..	2	..	3
October	..	..	2	..	1
November	..	..	1	..	..
December	..	..	2	..	..
1953—					
February	..	..	..	..	1
March	..	..	1	..	..
April	1	2	1	..	..
May	..	2	..	..	1
June	..	..	2	..	..
Total	1	5	13	1	9

TABLE LII.

GORDONVALE.

Total Cases—47.

Month of Onset.	P.U.O. (Lack of Complete Investigation.)	P.U.O.	Scrub Typhus.	Q Fever.	Leptospirosis.	
					(Non Cane-worker).	Cane-worker.
1952—						
April	..	3	..	..	..	..
June	..	..	2	..	..	..
September	..	1	..	..	..	..
October	..	1	..	1	..	..
November	..	1	..	..	..	1
December	..	1	..	..	1	1
1953—						
January	..	2	..	..	2	2
February	..	4	..	..	2	4
March	2	6	..	..	2	1
April	..	..	..	..	1	..
May	..	1	1	..	..	..
June	..	2	..	..	2	..
Total	2	22	3	1	10	9

TABLE LIII.

BABINDA.

Total Cases—60.

Month of Onset.	Leptospirosis.		P.U.O.	P.U.O. (Lack of Complete Investigation).	Scrub Typhus.
	Cane-worker.	(Non Cane-worker).			
1952—					
February	..	..	1	..	..
March	..	..	1	..	..
June	..	..	1	..	..
July	2	..	..	..	1
August	*6	..	..	..	..
September	3	1	..	..	..
October	2	2	2	1	1
November	2	1	1	..	..
December	1	1	1	..	..
1953—					
January	2	5	2	2	..
February	3	1	1	..	..
March	1	1	..	1	..
April	1	..	3	..	1
May	1	1	1	..	..
June	1	..	..	..	1
Total	25	13	14	4	4

* One fatal case of clinical leptosperosis.

TABLE LIV.

INNISFAIL.

Total Cases—130.

Month of Onset.	Leptospirosis.		P.U.O.	P.U.O. (Lack of Complete Investigation).	Scrub Typhus.	Murine or Tick Typhus.	Q Fever.	Brucellosis.
	Cane-worker.	Non Cane-worker.						
1952—								
March	..	..	1	..	..	..	..	..
April	2	..	2	1	..	..	..	..
May	1	..	..	..	..	..	..	..
June	..	..	3	..	..	..	..	1
July	3	1	4	1	..	1	..	..
August	1	..	5	..	1	1	..	1
September	1	..	8	1	1	..	..	..
October	..	..	8	..	..	..	..	..
November	1	2	5	1	..	..	..	..
December	3	2	4	..	..	..	..	..
1953—								
January	3	3	8	..	..	..	..	..
February	4	3	9	..	..	..	..	..
March	4	3	4	..	2	..	..	..
April	8	..	4	..	..	..	..	..
May	..	3	1	..	..	..	..	..
June	1	1	1	..	..	..	1..	..
Total ..	32	18	67	4	4	2	1	2

TABLE LV.

TULLY.

Total Cases—56.

Month of Onset.	Leptospirosis.		P.U.O.	P.U.O. (Lack of Complete Investigation.)	Scrub Typhus.	Q. Fever.
	Cane-worker.	Non-Cane-worker.				
1952—						
March	..	..	1	..	..	..
April	..	..	..	1	..	..
May	..	..	..	1	..	..
June	..	1 and 1 clinical	1	..	..	..
July	..	1	2	..	4	..
August	..	1	3	..	1	..
September	..	..	4	..	..	1
October	..	..	1	1	..	..
November	..	1 (Mitis type)	4	2	..	..
December	1	..	1	1	..	..
1953—						
January	1	1	..	..	..	..
February	..	1	2	..	..	..
March	..	..	2	..	1	..
April	..	1	3	1	..	..
May	..	..	1	3	1	..
June	..	1	..	..	2	..
Total	2	9	25	10	9	1

TABLE LVI.

INGHAM.

Total Cases—6.

Month of Onset.	Leptospirosis (Cane-worker.)	P.U.O.	P.U.O. (Lack of Complete Investigation.)	Scrub Typhus.
1952—				
July	..	1	..	..
October	..	1	..	1
November ..	..	1	..	..
December ..	..	..	1	..
1953—				
May	1	..	..	..
Total ..	1	3	1	1

TABLE LVII.

TOWNSVILLE AND IMMEDIATE HINTERLAND.

Total Cases—38.

Month of Onset.	P.U.O.	P.U.O. (Lack of Complete Investigation).	Q. Fever.
1952—			
July	6	..	1
August	3	2	..
September	3	..	..
October	3	..	..
November	1	...	..
December	2	..	..
1953—			
January	1	..	..
February	2	..	..
March	2	1	..
April	5	..	..
May	2	..	..
June	2	..	2
Total	32	3	3

TABLE LVIII.

BOWEN.

Total Cases—6.

Month of Onset.	P.U.O.	P.U.O. (Lack of Complete Investigation).	Leptospirosis (Pomona Type).
1952—			
August	1	1	..
September	1	..	..
October	..	1	..
November	1	..	..
December	..	..	1
Total	3	2	1

TABLE LIX.

MACKAY.

Total Cases—34.

Month of Onset.	P.U.O. (Lack of Investigation).	P.U.O.	Murine Typhus.	Scrub Typhus.	Q Fever.	Leptospirosis (Non Cane-worker).
1952—						
May	1	..	..	..	..	..
July	..	1	..	..	..	..
August	1	4	1	..	..	..
September	1	1	..	..	..	..
October	..	2	..	..	..	..
November	..	2	..	..	..	..
December	1	..	..	..	..	1
1953—						
January	..	2	..	..	..	..
February	..	5	..	..	2	..
March	..	..	..	1	..	1
April	..	1	..	..	1	..
May	..	2	..	..	..	..
June	..	2	..	..	..	1
Total	4	22	1	1	3	3

TABLE LX.

FEVER CASES, SOUTHERN QUEENSLAND (TOTAL 91).

Occupations of Patients.

Q. FEVER—(Total 49).

Abattoir worker	35
Timber cutter	1
Dairy farmer	8
Housewife	1
Glass worker	1
Meat inspector	2
Motor mechanic on holiday	1
Total	49

BRUCELLOSIS—(Total 9).

Dairy farmer	3
Banker (whole milk, Kingaroy)	1
Bulldozer driver	1
Meat worker	1
Kitchen hand (? milk)	1
Stock inspector	2
Total	9

LEPTOSPIROSIS (POMONA TYPE)—(Total 24).

Dairy farmer	13
Pig farmer	6
Meat worker	4
Housewife	1
Total	24

LEPTOSPIROSIS (MITIS TYPE)—(Total 8).

Dairy farmer	6
Meat worker	2
Total	8

CLASSICAL WEIL'S DISEASE—(Total 7).

Engine driver	1
Storeman-packer in shoe factory (lives near saleyards)	1
Schoolboy (bitten by rat)	1
Sewer worker	2
Fish Transporter	1
School Boy	1
Total.	7

MURINE TYPHUS—(Total 11.

Waterside worker	1
Produce store	2
Housewife	1
Teacher	1
Rat catcher	1
Toolmaker (Queensland Government Railways)	1
Brewery worker	1
Tinsmith	1
Telephonist	1
Engineer	1
Total	11

? TICK TYPHUS—(Total 2).

Forestry worker	2
Total	2

WEIL'S DISEASE CAMPAIGN.

The area under the control of Weil's disease inspectors extends from Ingham in the south to Cairns in the north, and when necessary, visits are made to other sugar cane growing areas. This area covers the coastal belt north of Townsville, which is the area of high rainfall.

During the year just ended, record sugar cane crops were harvested in all areas and the crushing period extended from late May to well into January.

New factors operated markedly this year to increase the harvest, such as increased cane assignments, the beneficial effects of Gammexane in controlling cane grubs thus increasing the cane yield, and the more extensive planting of variety canes giving improved tonnage per acre.

Heavy crops demand more and greater attention in field work, and when they are lodged by heavy rain and wind, special problems are created. The matted cane provides ideal food harbourage and moisture for the rodents which pollute the stalks and the ground, and extensive damage may be caused to the cane from rat bites. Fortunately, lodging was not very extensive during the past year, but the staff was fully occupied and registered substantially increased mileage in giving necessary attention to the many new and enlarged assignments.

Particulars of farms and fields inspected during the period of harvesting are shown in Tables LXI., LXII., LXIII., and LXIV.

In the slack season between January and May, a total of 1,631 farms were inspected, and advice and instruction given to farmers on the control of rat harbourage and farm cleaning measures. The improved supply of materials, coupled with the availability of more labour, has enabled much to be done in this direction during the past years.

At various times during harvesting, particularly during the early weeks of crushing, it was necessary to prohibit the cutting of cane on low, wet, or rat damaged blocks until improved weather conditions permitted effective burning of the cane. In most such cases, cutters were transferred temporarily to other fields or farms, and in one instance only, was a very small area of cane left unharvested at termination of crushing.

Throughout the year, a general check was kept on sanitation at cane barracks and on soil pollution in and near canefields, particularly during the crushing period. The control of this pollution must be renewed each season because many newcomers to the industry have only a scanty knowledge of hygiene. On the other hand the sanitary facilities provided on farms are reasonably good.

It was repeatedly necessary to warn canecutters and others regarding the failure to wear boots and the use of unsuitable clothing, particularly during wet weather, when adequate protection is required.

The inspectors have continued to co-operate with the Field Station of the Queensland Institute of Medical Research at Innisfail. A total of 271 suspected fever patients was investigated during the twelve months. Field inspections and inquiries were made in each instance and reports furnished.

The patients were notified from within the Shires of Hinchinbrook, Cardwell, Johnstone, Mulgrave, and Douglas.

Cane Pest Destruction Boards in the various mill areas continue to function reasonably well. It is noted that most Boards distributed a lesser number of poison baits than in the previous year, despite a substantial increase of acreage under cane.

It would appear that there is the usual unfortunate tendency to relax effort when good results have been attained over the previous period.

More methodical measures could well be adopted in several mill areas where the present system of distribution and laying of poison baits is haphazard and irregular. In a number of areas, however, rodent control measures are highly efficient with consequent satisfactory results.

It is necessary, to maintain effective control, to carry out preventive work through clean farming methods, in addition to baiting.

It is now fully recognised that clean headlands, the fencing off and grazing of adjacent waste lands and improved drainage, are all important to this end.

Seasonal conditions were normal throughout the year. The several wet spells were not of long duration, except towards the end of the crushing in January, when some difficulty was experienced in arranging harvesting under safe field conditions.

TABLE LXI.

Mill Areas.	Area Harvested.	Cane Crushed.	Total Cane Burned.		Burned under Health Regulations.	
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
Goondi	8,911	280,785	8,896	280,355	437	11,485
Tully	13,439	422,141	13,369	418,119	10,026	313,590
Mourilyan	9,156	247,903	9,149	247,717	..	..
Johnstone	12,254	383,011	12,170	378,723	544	15,690
Macknade	12,994	363,617	12,923	351,534	449	5,025
Victoria	14,419	354,741	14,351	353,322	757	7,013
Babinda	11,776	285,838	11,670	283,274	687	16,689
Mulgrave	11,087	312,114	11,022	310,993	2,600	71,665
Hambledon	9,956	275,031	9,922	273,890	8	384
Invicta (Ingham line)	3,118	63,509	3,118	63,480	310	4,650
Totals	107,110	2,988,690	106,590	2,961,407	15,818	446,191

TABLE LXII.

Mill Area.	Farms Inspected.	Fields Inspected.	Acres Inspected.	Fields Burned.	Cane-cutters signed on.
Goondi	422	339	3,423	56	350
Tully	1,184	1,192	9,674	1,634	430
Mourilyan	38	39	330	..	293
Johnstone	581	604	4,333	75	511
Macknade	421	542	4,319	14	413
Victoria	461	557	4,492	17	355
Babinda	731	766	5,996	107	330
Mulgrave	196	212	2,885	62	406
Hambledon	11	15	112	1	396
Invicta (Ingham line)	116	160	744	5	91
Totals	4,161	4,426	36,308	1,971	3,575

TABLE LXIII.

BAITS DISTRIBUTED BY PEST BOARDS FOR RODENT DESTRUCTION.

Numbers and Type.

Mill Area.	Phosphorus. (On Bread.)	Thallium Sulphate. (Wheat.)	Zinc Phosphide. (Wheat.)	Other.
Goondi	..	916,480	68,992	7 lb. Phos. paste
Tully	..	238,208	..	..
Mourilyan	1,268,810	3,741,440	..	8 oz. Strychnine
Johnstone	15,000	1,176,000	..	..
Macknade	..	1,197,000	..	..
Victoria	..	1,088,000	..	..
Babinda	2,152,080	633,040	..	140 lb. Phos. paste
Mulgrave	251,600	505,120	..	..
Hambledon	..	708,736	..	..
Mossman	..	800,000	..	1½lb. Arsenic 8 oz. Strychnine
Invicta (Ingham line)	..	144,360	..	..
Totals	3,687,490	11,148,384	68,992	..

TABLE LXIV.

FIELD INVESTIGATED.

Fever Cases all Areas. Occupation and Type.

Occupation.	Leptospirosis	Scrub Typhus.	Q Fever.	Brucellosis.	P.U.O.
Cane-cutters	22	..	..	..	19
Timber workers	5	5	..	..	18
Farmers	15	..	..	..	17
Mill, L.A. Tramway	6	..	2	..	28
Farm labourers	18	2	..	..	20
Children	5	1	..	..	36
Others	10	..	..	..	41
Totals	81	8	2	1	179

DIVISION OF MATERNAL AND CHILD WELFARE.

Director: H. C. Murphy, M.B., B.S.

Deputy Director: P. M. Jackson, M.B., B.S.

Part-time Pre-school Child Health Officer: T. Henry R. Mathewson, M.B., Ch.B.

Superintendent: D. Bardsley, A.T.N.A., F.C.N.A. (Seconded to the Department of Health and Home Affairs on the 12th February, 1953.)

Acting Superintendent: A. Jenkinson, A.T.N.A.

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Introduction — Staff — Enteritis — Prematurity—Weight Gain of Queensland Infants in First Year of Life—Vital Statistics—The Year's Work—Visits of Inspection—St. Paul's Terrace Home—St. Paul's Terrace Training School—Clayfield Home—Clayfield Training School—Toowoomba Home—Toowoomba Training School—The Jefferis Turner Home, Ipswich—Jefferis Turner Training School—Rockhampton Home—Rockhampton Home Training School—Sandgate Home—Rail Car—Ante-natal Clinics—Correspondence Service for Expectant Mothers—Director's Consultant Centre—Pre-School Health Centres—Correspondence Section—Social Welfare Service—Lecture Demonstrations to School Girls—Lectures and Demonstrations for Students of the Kindergarten Training College—Medical Students—Newspaper Articles—Publications of the Service—Baby Clinic Social Club—Overseas Visitors Acknowledgments.

INTRODUCTION.

The Maternal and Child Welfare Service has an important part to play towards parent education and guidance in the fields of preventive medicine and public health. The aim and responsibility of this Service is to teach and encourage mothers in correct supervision of their child's physical and mental development, from the ante-natal period until school age, with the firm belief that if this is carried out sincerely, it will ensure a healthy and happy adult community.

Its activities are extended to every mother of the State who wishes to make use of this Service. To encourage this, a personal visit is paid to all mothers of a newly-born infant, where it is possible to do so; if this is not possible, mothers are written to, inviting them to use the Correspondence Section which advises mothers or expectant mothers, unable to attend a centre, on all aspects of maternal and child welfare. They are encouraged to place their problems before the Section, their letters being post-free.

To further the aims of this Service, the complete staff is encouraged and expected to give of their best knowledge and service to the mothers and children of Queensland. The nursing staff, which is the largest section, comprising approximately four-fifths of the staff, is highly trained in all aspects of Maternal and Child Welfare work and serves in the existing five Homes, four special services and 214 Centres which are distributed over the whole State. Its members are encouraged to further their studies, thus maintaining the high standard of efficiency which is so necessary and important to a Service such as this. Its activities and teaching, if well carried out, will prove their value in a future healthy nation.

Every opportunity is taken by this Service to work in conjunction with all other units concerned with Public Health. Co-operation with the medical section, especially the general practitioners, is very important, as one of the aims of this Service is to give support and assistance to the medical profession by instructing and helping any expectant mother or nursing mother to carry out any advice on feeding and management that her doctor has given. This aspect of the work is not always taken advantage of, but it is felt that it will become more widely known and used when the medical students, who have had the opportunity of observing the type of work and its results in the Centres and Homes, become qualified members of the medical profession.

The mother, with her first infant, is very susceptible to well-meaning, but often incorrect, advice on the feeding and management of the infant. These mothers, particularly those who are young, need correct advice and instruction, and this is readily available at the Centres or the Correspondence Section conducted by the Maternal and Child Welfare Service. Many of them have expressed great satisfaction, not only at the progress of their infants, but also at the confidence engendered within themselves of handling any situation which may arise.

The mothercraft lessons to school girls, given by this Service, are a very good medium for teaching the importance of child welfare work and creating an interest in it. This can be very helpful in directing young mothers to seek correct advice. When more staff becomes available, it is hoped to extend this section of the Service.

STAFF.

On 12th February, 1953, Miss Doris Bardsley, A.T.N.A., F.C.N.A., was seconded from this Service for special duty as Adviser in Nursing, Chief Office, Department of Health and Home Affairs, for a period of twelve months.

Miss Bardsley was appointed to the permanent staff in October, 1923, and from that time, except for a break of two months, was stationed at the Woolloongabba Centre until 1937, when she was appointed Acting Superintendent, and, subsequently, in 1939, appointed as Superintendent.

Miss Bardsley is well known to all the nursing bodies of Australia, having played an active part for many years in the nursing associations. She left Brisbane on 20th June, 1953, to attend the Congress of the International Council of Nurses in Brazil, representing the Australian Nursing Federation, of which she is president.

Of the 140 members of the nursing staff, 62 are members of the permanent staff and 78 are temporary members. This shows an increase of 19, compared with the number of staff last year.

Seven members were appointed to the permanent staff and three have resigned from the permanent staff. Three senior sisters are on extended leave and another senior sister is taking a refresher course. Two senior sisters retire on 30th June, 1953, one having been a member of this staff for 24 years and the other for 14 years.

The isolation of some centres, together with accommodation problems, are factors in the staff difficulties being experienced in country areas.

Every effort is made to prevent the closure of any Centre, but unfortunately, at times, this cannot be avoided. The greatest difficulty is to relieve the sisters in country areas for their recreation leave and in case of sickness.

ENTERITIS.

In September, October, and November, an outbreak of infection with *E. Coli O.III.* occurred at the Clayfield Home, nine cases occurring from 22nd September to 12th November, seven of the cases being transferred to hospital. One of these cases, a mongol with a congenital cardiac condition, died in hospital.

The possible source of this infection was a toddler of two years and eight months, who was a healthy carrier with no symptoms of enteritis at any stage.

Seven infants in the Sandgate Babies' Home were affected with *E. Coli O.III* and were transferred to hospital. Four of these cases occurred in November and three at the end of April.

Apart from these outbreaks, sporadic cases continue to occur, but most of them have responded to antibiotic therapy, isolation, and a high standard of hygiene. *E. coli* O.111 was responsible for 27 infections, Salmonella organisms for 26, while two trainees were found to be carriers of *E. coli* O.55. One mother and two children (one of six months, the other of two years, and suffering from Pink disease) were infected by *Sh. sonnei.*

The problem of preventing spread of infection is a difficult one as the infants, who are admitted to our Homes, are referred for the correction of feeding problems only, and exhibit no sign of infection prior to admission. It is only after rectal examinations have been made that the presence of infective organisms is established. Research so far undertaken shows that once infection is introduced into a Home, its further spread is by means of adults. Routine examination of all adults is therefore undertaken and all members of the staff are instructed to report any slight sickness, particularly intestinal upsets.

As there were 21 cases (including 5 adults) with positive swabs admitted to the Clayfield Home since the outbreak in October and no further severe outbreaks occurred, it would appear that the methods adopted, namely isolation, antibiotic treatment, and strict hygiene, have achieved some measure of success in the prevention of the spread of infection.

PREMATURITY.

The following statistical report (Table LXV.) has been compiled from the records of the Brisbane Women's Hospital for the twelve months ending 31st December, 1952:—

TABLE LXV.

SHOWING DETAILS OF BIRTHS AND DEATHS OF PREMATURE INFANTS, BRISBANE WOMEN'S HOSPITAL, 1952.

Brisbane Women's Hospital.	Live Births.	Premature Births.	Percentage of Live Births.	Deaths of Premature Infants.	Percentage Mortality of Premature Infants.
Public	3,307	208	6·3	32	15·4
Intermediate	6,564	297	4·5	23	7·7
Total	9,871	505	5·1	55	10·9

Fifty infants under 2 lbs. 12 ozs. were born, of whom 5 survived, the smallest weight being 2 lbs. 4 ozs. Exchange transfusions were carried out on 53 full term and premature babies, of whom 48 survived. Blood transfusions were carried out on 50 full term and premature babies, of whom 46 survived.

TABLE LXVI.

CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS.

——	1952.	1953.
Immaturity unqualified	153	187
Ill-defined diseases peculiar to early infancy, with immaturity	16	16
Postnatal asphyxia and atelectasis, with immaturity	26	43
Intracranial and spinal injury at birth, with immaturity	17	12
Other birth injury, with immaturity	27	23
Neonatal disorders arising from maternal toxaemia, with immaturity	18	8
Pneumonia of newborn, with immaturity	8	5
Haemorrhagic disease of newborn, with immaturity	3	3
Erythroblastosis, without mention of nervous affection but with immaturity	7	6
Nutritional maladjustment, with immaturity	1	..
Immaturity with mention of any other subsidiary condition	5	6
Diarrhoea of newborn with immaturity	..	..
Umbilical sepsis with immaturity	1	..
Total	282	309
Total under one year	282	309
Total under one month	277	305

WEIGHT GAIN OF QUEENSLAND INFANTS IN FIRST YEAR OF LIFE.

It is generally stated in paediatric text books that the average infant doubles his birth weight between five and six months, and trebles it at twelve months.

A survey of 5,804 Queensland infants of all weights from under 5 lbs. to 11 lbs. shows the following results with regard to the age at which the birth weight is doubled.

Premature Infant, born at Brisbane Women's Hospital. Birth Weight, 1 lb. 13½ ozs.; Weight at 12 months, 13 lbs. 1½ ozs.

TABLE LXVII.

Birth Weight.	Age at which Birth Weight is Doubled.			Total.
	Metropolitan.	Tropical.	Sub-Tropical.	
Under 5 lbs.	(64) 13 weeks	(26) 12 weeks	(68) 12 weeks	(158)
5 lbs.– 6 lbs.	(128) 15 weeks	(65) 14 weeks	(149) 15 weeks	(342)
6 lbs.– 7 lbs.	(471) 17 weeks	(105) 17 weeks	(506) 18 weeks	(1,082)
7 lbs.– 8 lbs.	(806) 20 weeks	(469) 21 weeks	(873) 21 weeks	(2,148)
8 lbs.– 9 lbs.	(542) 24 weeks	(327) 21 weeks	(662) 24 weeks	(1,531)
9 lbs.–10 lbs.	(180) 27 weeks	(86) 27 weeks	(204) 27 weeks	(470)
10 lbs.–11 lbs.	(23) 30 weeks	(16) 32 weeks	(34) 34 weeks	(73)

Number of infants shown in brackets.

The following table shows the percentage of infants in the various weight groups who trebled their birth weight at the end of the first year. The number of infants in this survey was 3,629, and were included in the 5,804 in Table LXVII.

TABLE LXVIII.

Birth Weight.	Percentage of Infants who Trebled their Birth Weight at 1 Year.			
	Metropolitan.	Tropical.	Sub-Tropical.	Total.
Under 5 lbs.	(24) 100%	(16) 100%	(23) 100%	(63) 100%
5 lbs.– 6 lbs.	(20) 90%	(51) 94%	(81) 100%	(152) 96%
6 lbs.– 7 lbs.	(254) 88%	(87) 88%	(298) 85%	(639) 87%
7 lbs.– 8 lbs.	(443) 62%	(356) 55%	(567) 58%	(1,366) 59%
8 lbs.– 9 lbs.	(294) 20%	(234) 30%	(459) 23%	(987) 23%
9 lbs.–10 lbs.	(117) 15%	(74) 8%	(171) 6%	(362) 9%
10 lbs.–11 lbs.	(16) 0%	(13) 0%	(31) 3%	(60) 2%

Number of infants shown in brackets.

From this survey, the following observations were made:—

1. There is no significant difference in the weight gain of infants in the three zones. Except for slight differences in the larger weight groups, the figures are remarkably constant.
2. Up to the time the infants doubled their birth weight, the average weight gain was 6 ounces per week for all weight groups, except the under five pounds group, in which the weight gain was 5 ounces per week. From this period onward, there is a slow, steady decline in weight gain in all groups, until at the age of twelve months, the average weekly gain is 2 ounces per week.
3. Infants of average birth weight, namely 7 lbs. 8 ozs., double their birth weight at 21 weeks, but only slightly more than half (59 per cent.) treble it in 12 months.
4. Infants in the larger weight groups naturally take longer to double their birth weights, and very few of them treble it in 12 months.

VITAL STATISTICS.

Births.

During the year 1952, 30,953 births were registered in Queensland, an increase of 1,301 over the previous year and the highest on record. The crude birth rate was 25·1 compared with 24·6 in 1951.

In 1952, there were 15,915 males and 15,038 females born giving a masculinity rate of 105·8.

The natural increase (excess of births over deaths) of 19,782 in 1952 was equal to an increase of 1·62 per cent. of the population in Queensland, compared with 1·56 per cent. in 1951.

Marriages.

Registration of marriages during the calendar year 1952 numbered 10,056 compared with 10,814 in 1951. The marriage rate was 8·1 per thousand mean population compared with 9·0 in 1951.

Minors married during the year numbered 3,912, of whom 681 were males and 3,231 were females.

DEATHS.

Maternal.

The number of deaths of women due to diseases of pregnancy and childbirth was 32 in 1952, with a corresponding mortality rate of 1·03 per thousand live births. This is the lowest maternal mortality rate ever recorded in Queensland.

Of the 32 deaths occurring in 1952, 14 followed childbirth and 15 were due to diseases and accidents of pregnancy (excluding abortion).

The causes of the 14 deaths due to diseases and accidents of childbirth were as follows:—

Other accidents of childbirth including Caesarian section	7
Haemorrhage of childbirth and puerperium	6
Puerperal toxaemias and infection during childbirth and puerperium	1

The causes of the 15 deaths due to diseases and accidents of pregnancy were as follows:—

Toxaemia of pregnancy	9
Haemorrhage of pregnancy	5
Other complications of pregnancy ..	1

Infantile.

Deaths of infants under one year numbered 772, compared with 761 in 1951, an increase of 11. The infantile mortality rate of 24·9 per thousand live births is lower than the rate for the previous year, which was 25·7, and this rate compares favourably with the record low level of 24·7 in 1949.

The rate for the metropolitan area for 1952 was 23·7 compared with 26·8 in 1951. A decline in deaths from gastro-enteritis and pneumonias was responsible for the improvement in the rate. The sub-tropical area showed an increase from 24·0 in 1951 to 27·0 in 1952, whilst the tropical area further decreased from 26·8 in 1951 to 23·2 in 1952.

Five hundred and fifty-eight children under one month, and 214 from one month to one year, died during the year, the corresponding mortality rates being 18·0 and 6·9 per thousand live births.

TABLE LXIX.

Causes of Deaths in Infants under One Year, Queensland, 1952.

Cause.	1951.	1952.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (*a*)	Tropical.	Total.	
Immaturity (unqualified)	153	61	81	45	187	+34
Congenital Malformations	105	47	51	27	125	+20
Intracranial and spinal Injury at Birth ..	74	27	27	11	65	−9
Other Birth Injury	55	13	21	14	48	−7
Postnatal Asphyxia and Atelectasis	59	35	32	14	81	+22
Pneumonia of Newborn	33	8	11	5	24	−9
Haemolytic Disease of Newborn (Erythroblastosis)	27	4	14	5	23	−4
Neonatal Disorders arising from Maternal Toxaemia	23	3	6	5	14	−9
Haemorrhagic Disease of Newborn	14	2	4	3	9	−5
Diarrhoea of Newborn	3	1	..	..	1	−2
Other Diseases Peculiar to Early Infancy ..	32	9	18	7	34	+2
Total Diseases of Early Infancy ..	578	210	265	136	611	+33
Bronchopneumonia, other and unspecified Pneumonia	38	3	13	7	23	−15
Gastro-Enteritis and Colitis	40	13	12	2	27	−13
Whooping Cough	3	..	..	1	1	−2
Lobar Pneumonia..	2	1	2	2	5	+3
Diphtheria	2	..	..	..	..	−2
All other Causes	98	32	51	22	105	+7
Total Deaths under 1 year	761	259	343	170	772	+11

(*a*) Excluding Metropolitan.

TABLE LXX.

Causes of Deaths in Infants under One Month of Age—Queensland, 1952.

Cause.	1951.	1952.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (*a*)	Tropical.	Total.	
Immaturity (unqualified)	153	60	81	45	186	+33
Intracranial and Spinal Injury at Birth ..	73	29	28	14	71	−2
Other Birth Injury	55	27	26	11	64	+9
Congenital Malformations	63	13	21	14	48	−15
Postnatal Asphyxia and Atelectasis	58	35	31	12	78	+20
Pneumonia of Newborn	33	8	11	5	24	−9
Haemolytic Disease of Newborn (Erythroblastosis)	27	4	14	5	23	−4
Neonatal Disorders arising from Maternal Toxaemia	23	3	6	4	13	−10
Haemorrhagic Disease of Newborn	14	2	4	3	9	−5
Diarrhoea of Newborn	3	1	..	..	1	−2
Other Diseases Peculiar to Early Infancy ..	22	6	16	5	27	+5
Total Pre-natal Causes	524	188	238	118	544	+20
All Other Causes	17	5	5	4	14	−3
Total Deaths under 4 weeks	541	193	243	122	558	+17

(*a*) Excluding Metropolitan.

TABLE LXXI.

Causes of Deaths in Infants More Than One Month, but less Than Twelve Months of Age—Queensland, 1952.

Cause.	1951.	1952.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (*a*)	Tropical.	Total.	
Congenital Malformations	42	18	23	13	54	+12
Postnatal Asphyxia and Atelectasis	1	..	1	2	3	+2
Haemolytic Disease of Newborn (Erythroblastosis)	..	..	..	..	..	..
Intracranial and Spinal Injury at Birth	1	..	1	..	1	..
Other Diseases Peculiar to Early Infancy	10	4	2	3	9	−1
Total Pre-natal Causes	54	22	27	18	67	+13
Bronchopneumonia, other and unspecified Pneumonia	38	3	13	7	23	−15
Gastro-enteritis and Colitis	40	13	12	2	27	−13
Whooping Cough	3	..	..	1	1	−2
Lobar Pneumonia	2	1	2	2	5	+3
Diphtheria	2	..	..	..	..	−2
All other Causes	81	27	46	18	91	+10
Total Deaths 4 weeks and Under 1 Year	220	66	100	48	214	−6

(*a*) Excluding Metropolitan.

Diseases of early infancy refer to the causes of illness and death within the first four weeks of life, but also include cases of deaths from certain causes at all ages. For example, the illness may start in the first four weeks, but may not cause death until much later. (International Classification of Diseases, Injuries and Causes of Deaths, 1948.)

Deaths of Children Aged One Year and Under Five Years.

(*a*) Deaths of children, aged one year and under two years, during the year numbered 85, representing a death rate of 3·0 per thousand children in that age group.

The chief causes of deaths were:—

Accidents		20
Congenital Malformations		11
Pneumonia—		
Bronchopneumonia	3	7
Lobar Pneumonia	2	
Other Unspecified	2	
Gastro-enteritis and Colitis		5
Bronchitis		5

Of the 20 deaths due to accidents, seven were caused by burns and scalds, three by drowning, four by accidental poisoning, one by traffic accident, one by vehicular accident, one by railway accident, one by machinery accident and one unspecified.

(*b*) Deaths of children, between two years and under five years, during the year numbered 107, representing a death rate of 1·3 per thousand children in that age group.

The chief causes of deaths were:—

Accidents	21
Congenital Malformations	9
Pneumonia (all kinds)	7
Bronchitis	7
Meningococcal Infections	6
Malignant Neoplasms	5
Tetanus	5

Of the 21 deaths due to accidents, six were caused by motor traffic accidents, five by burns and scalds, three by poisoning, two by drowning, one by motor vehicle (non-traffic), one by railway accident, one by fall, one by electrocution, and one by the bite and sting of a venomous animal.

Accidental Deaths of Children Between One and Fourteen Years.

Despite various methods of education with regard to the prevention of accidents, the toll of accidental deaths between one year and fourteen years shows no sign of diminishing. The following table shows the death rate from accidents for the six years 1947 to 1952:—

TABLE LXXII.

Accidental Deaths of Children (aged 1–14 years) in Queensland.

—	1947.		1948.		1949.		1950.		1951.		1952.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Road Accidents	10	9	13	12	14	8	9	9	13	16	15	6	134
Firearms	6	..	2	1	2	..	..	..	7	..	1	..	19
Drowning	15	6	9	1	21	3	19	7	16	7	10	6	120
Falls	10	4	8	3	6	2	4	1	2	..	2	..	42
Other Accidents and Violence	19	12	11	6	27	12	17	11	21	16	29	12	193
	60	31	43	23	70	25	49	28	59	39	57	24	508
Totals	91		66		95		77		98		81		508

In collaboration with the Queensland Health Education Council, a pamphlet has been prepared setting out the hazards in the ordinary home and the means of preventing accidents. These pamphlets are delivered to every mother attending the Centres.

THE YEAR'S WORK.

There are now 214 Centres and Sub-centres throughout the State, 52 being in the metropolitan area and 162 in the country.

The total number of attendances was 372,326, which is an increase on the figure of 367,748 of the previous year.

The total number of admissions to the Homes was 272 mothers and 784 babies.

New Sub-centres Established—

(1) Wavell Heights on 16th March, 1952, visited from Nundah.

(2) Coopers Plains on 3rd November, 1952, visited from Woolloongabba.

(3) Northgate on 10th April, 1953, visited from Nundah.

(4) Enoggera Immigration Centre on 7th January, 1953, visited from Herschell Street.

(5) Wacol Immigration Centre on 6th January, 1953, visited from Fortitude Valley.

Sub-centres Approved.—Goodna, Garbutt, Clare, Rising Sun, St. George. Lack of staff and adequate Clinic accommodation have precluded these Sub-centres from being opened.

Owing to inability to secure staff, it was found necessary to close three Centres, Longreach, Emerald and Goondiwindi. The difficulty encountered was lack of suitable living accommodation. This difficulty was overcome in Emerald, which was closed for four months, and Goondiwindi, which was closed for five months, but no suitable accommodation has yet been arranged at Longreach. Some other Centres had to be closed for short periods, owing to lack of holiday relievers. Taking these facts into consideration, the total attendances are very satisfactory.

VISITS OF INSPECTION.

The Deputy Director made two visits of inspection during the year, one of Northern and Central Queensland in August, 1952, the other of South-western Queensland in November.

Centres visited in the Northern and Central tour included Rockhampton Centre and Home, Mount Morgan, Mackay, Innisfail, Townsville, Rail Car, Mount Isa, Cairns, Mareeba, Atherton, Biloela, Gayndah and Maryborough.

It was reported that most Centres were functioning very satisfactorily, the only exception being Gayndah, in which the accommodation is inadequate. Enquiries were made from several estate agents as to the possibility of securing more suitable premises, but no satisfactory solution of the problem has yet been made, other than that the large room in front of the C.W.A. building is now being used.

On the South-western tour, Goondiwindi, Warwick, Charleville, Roma and Dalby were visited. The Dalby Centre is very pleasant and comfortable in contrast with the former premises.

Living accommodation for the Sister at Charleville is now satisfactory as the Sister has secured a flat. Sisters visiting Sub-centres during race week are still refused accommodation at hotels during this period. In most cases they are able to spend the night at the local hospital.

The Sub-centre at Surat is now located at the Shire hall which is more satisfactory.

ST. PAUL'S TERRACE HOME, BRISBANE.

This Home has been consistently busy throughout the year, 214 babies and 119 mothers having been in residence. Besides mothers and infants from the metropolis, others have come from the following country centres:—Gladstone, Rockhampton, Toowoomba, Maryborough, Bundaberg, Ayr, Texas, Goondiwindi, Woombye, Mackay, Goomeri, Boonah, Rathdowney, Oxenford, Pimpama, Kilcoy, Dayboro, and Murwillumbah.

Thirteen hare-lip and cleft palate babies have been in residence during the year. Most of these have stayed until transfer to hospital, but in some cases the mothers have been in residence, and having been instructed in feeding methods, were able to take their infants home and care for them until the time came for them to go to hospital for operation.

A reference library is now available to the trained staff and trainees.

ST. PAUL'S TERRACE TRAINING SCHOOL.

In December, 1952, twenty-nine trainees presented for examination, all being successful.

In June, 1953, thirty-six trainees sat for examination, and of these thirty-three were successful.

CLAYFIELD HOME, BRISBANE.

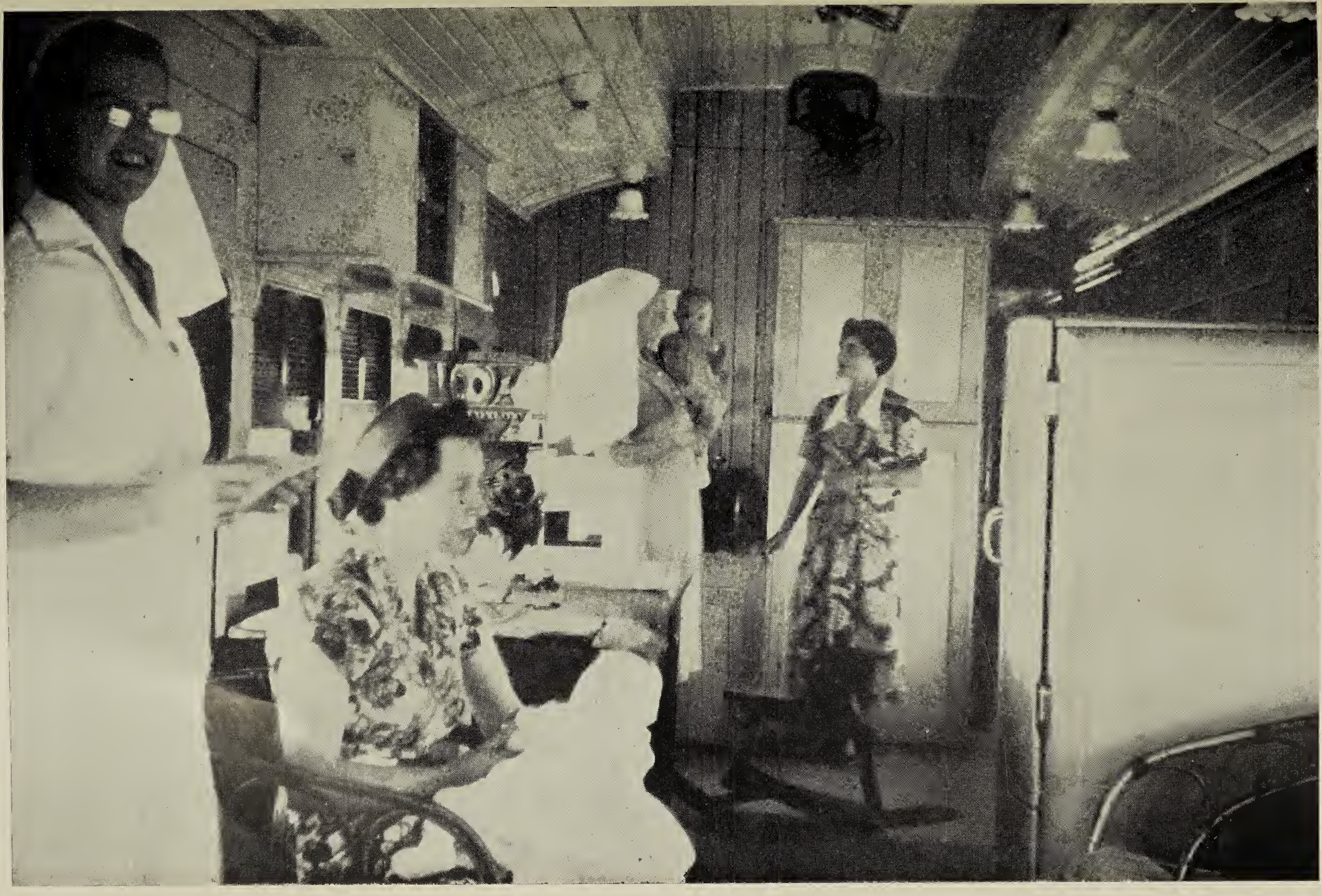
Two hundred and thirty babies and 55 mothers were admitted during the year. There were seven sets of twins and a large number of infants, 6 lbs. and under, who required special care. Among the toddlers admitted was an unfortunate youngster of four years of age, who has been blind since birth.

Again, enteric infection occurred in the Home, despite all possible precautions, and the problem of the prevention of infection in healthy children, admitted solely for feeding management, is causing a good deal of concern.

CLAYFIELD TRAINING SCHOOL.

Twenty trainees sat for examination in the first term and all were successful. In the second grade, three girls did not complete the course, one was unable to sit for examination owing to illness, and of the remaining twenty, eighteen were successful.

Most of the successful trainees plan to commence general nursing training.



Maternal and Child Welfare Rail Car—Interior View.

TOOWOOMBA HOME.

This Home continues to give valuable service to mothers and infants in Toowoomba and surrounding districts. Thirty-four mothers, 102 babies and 4 toddlers were admitted during the year. Included among the infants admitted were seven sets of twins, several cases of malnutrition, one case of pyloric stenosis, which was readmitted after operation, one case of pyloric spasm and one of Pink Disease. One toddler showed signs of scurvy on admission and responded quickly to treatment.

TOOWOOMBA TRAINING SCHOOL.

Nine trainees graduated in December, 1952, and eight in June, 1953, with no failures. With one exception, all these trainees are continuing in the nursing profession.

THE JEFFERIS TURNER HOME, IPSWICH.

This Home was officially opened on 3rd August, 1952, by the Honourable Minister for Health and Home Affairs, Mr. W. M. Moore, M.L.A. The first infant was admitted at the end of June and since then, 67 babies, 35 mothers and 5 toddlers have been admitted.

Among the infants admitted were premature and frail babies, mongol, cleft palate, Pink Disease, pyloric spasm, congenital heart disease, malnutrition, cases of sudden weaning due to illness of the mother and four sets of twins.

Even though this Home has been functioning for only twelve months, requests for admission often exceed the accommodation available.

Mothers in residence have been very appreciative of the treatment received, and have been discharged feeling well and better able to manage their babies with the confidence inspired during their stay in residence.

JEFFERIS TURNER TRAINING SCHOOL, IPSWICH.

Six Child Welfare assistants trained during the first year, all of whom were successful in examination.

Eighteen trainees are at present in training, eight of whom are being prepared for examination in November, 1953.

The popularity of this training among young girls just leaving school is evidenced by the fact that already there is a waiting list for enrolment.

MATERNAL AND CHILD WELFARE HOME, ROCKHAMPTON.

This Home was officially opened by the Minister for Health and Home Affairs on 21st September, 1952, in the presence of a large and representative gathering.

The first infant was admitted on 14th July, 1952, and since that date, 29 mothers and 60 babies were admitted. Of the 60 babies, 25 were premature infants, their weights being from 3 lbs. 1 oz. upwards. One infant with cleft palate and hare-lip was admitted and later transferred to Brisbane. Included in the number were two cases of Vitamin C deficiency and two ruminating babies. Infants have been admitted from as far north as Mackay and as far south as Gladstone, and from the surrounding districts of Mount Morgan, Yeppoon, Woorabinda, Barboya, Westwood, and Kabra.

Prospective mothers of adopted babies were instructed in the feeding, bathing and handling of the infants, this instruction extending over several days.

Through the co-operation of the Lady Goodwin Hospital, a supply of breast milk has been made available and a milk bank established. The Commonwealth Health Laboratory has also co-operated by examining rectal swabs from each baby admitted.

ROCKHAMPTON HOME TRAINING SCHOOL.

Two Child Welfare assistants commenced training on 22nd June, 1952, and both were successful in their examination.

At present there are two grades of 18 girls in training.

SANDGATE HOME.

Five hundred and ninety-two children were admitted to the Home in 1952-1953. Of these 66 were sent to hospital, 35 returning to the Home, the remaining 31 being discharged from hospital to their own homes. The majority of the children were sent to hospital during the months of July, August, and September, with measles, chickenpox or mumps. Two children of one family were infected with round worm on admission and were sent to hospital.

Outings were arranged by the Royal Automobile Club of Queensland to their annual picnic, and during Coronation week, the Lord Mayor of Brisbane, Alderman Roberts, arranged an outing for the children, as did the Hornibrook Highway Bus Company. A Christmas party was held and each child received toys, sweets and ice cream provided by the "Courier-Mail Toy Fund" and the Department of Health and Home Affairs.

In the Babies Home, 102 babies were admitted during the year, and of these, 25 were transferred to hospital. Four babies were transferred to the Wooloowin State Home.

RAIL CAR.

The attendances at the Rail Car for this year were 3,617, the highest since 1949, when both Mount Isa and Cloncurry were included in the itinerary.

Mothercraft classes were conducted at Julia Creek, Winton, Richmond, Maxwelton, and Hughenden.

In addition to their ordinary duties, the Sister in the Rail Car have given first aid to many cases, done shopping for mothers, and altogether are giving every possible help to people in the sparsely populated areas of North-western Queensland.

ANTE-NATAL SECTION.

Ante-natal attendance showed an increase during the year, and the number of patients returning for post-natal examination, is satisfactory. A card system, supplying details of patients' ante-natal attendances to the Women's Hospital, has been established.

Difficulty is still encountered with patients over adequate ante-natal diet and in the feeding and management of their babies, especially in the early post-natal period. The percentage of mothers attending the Centre regularly after the birth of their babies, is disappointing. An attempt to rectify this fault has been made by the institution of Mothercraft lectures to expectant mothers, while waiting at the Ante-natal Clinic. Primiparae are especially encouraged to attend these lectures. It is hoped to begin classes in ante-natal and post-natal physiotherapy in the near future.

Conditions complicating pregnancy were as follows:—

1. Ante-natal.

Condition.		Number of Cases.
Toxaemia		24
Anaemia		21
Rhesus Negative		21
(1 showed increasing Antibody titre).		
Hydramnios		4
Still births—		
Toxaemia	2	4
Anencephalic foetus	1	
Prolapsed cord	1	
Hypertension		3
Premature Labour		3
Contracted Pelvis		2
Miscarriage		2
Threatened Miscarriage		2
Uterine fibroids		2
Hyperemesis Gravidarium		1
Rheumatic heart disease		1
Tuberculosis (inactive)		1

2. Post-natal.

Condition.	Number of Cases.
Cystocele and Rectocele	9
Subinvolution of Uterus	6
Cystocele	2
Rectocele	2

Attendances for the year ending 30th June, 1953, were as follows:—

Fortitude Valley	540
Woolloongabba	1,076
Caboolture	260
Herschell Street	22
West End	18
Talks to Mothers	44
Total attendances	1,960

There has been an increase in the attendance of expectant mothers at the Fortitude Valley, Woolloongabba, Caboolture, and Herschell Street Centres.

Mothercraft lectures have been commenced at Woolloongabba and Fortitude Valley Centres, and are given alternate Monday and Thursday afternoons. These have been attended by patients from the ante-natal clinics, but are available to all expectant mothers.

Correspondence Service for Expectant Mothers.

The Correspondence Service has increased in all sections and sixteen additional hospitals have been contacted during the year. These include the Mater Hospitals in Mackay and Rockhampton, also St. Stephen's Private Hospital, Maryborough.

A number of country hospitals with Maternity Sections have co-operated, and now these expectant mothers are availing themselves of this service, resulting in an increase in the number of letters received, requesting further advice than that given in the series of letters.

Circular letters forwarded to expectant mothers	4,940
Response to circular letters	1,481
Circular letters forwarded to expectant mothers (other than above) *re* "Expectant Mother" book	2,602
Serial letters to expectant mothers	9,684
Special letters of advice sent on request	230
Copies of "The Expectant Mother" sent on request	1,413
Copies of baby patterns sent on request	145
Copies of other patterns sent on request	71
Copies of special exercises sent on request	2,329
Copies of "The Expectant Mother" sent on request to Doctors and Hospitals	722

Director's Consultant Centre.

During the year, there has been a considerable increase in the number of infants and toddlers whose feeding management had proved difficult and who were referred to the Director by Sisters in Charge of metropolitan and country Centres and by private medical practitioners. On a number of occasions, children have been referred from some of the leading shoe stores for advice on correct type of footwear.

Over a period of six months, children under eighteen months, who were to be admitted to Sandgate Home, had Rectal Swabs taken and sent to the Medical Research Institute for examination. Seventy-one swabs were submitted, and of these, all were negative, except one, which was positive for *E. Coli O.III.* Of the throat swabs taken during the year, 6 showed positive diphtheria organisms.

Attendances for the year ending 30th June, 1953, were as follows:—

Number of children examined for admission to Sandgate Home	1,067
Number of children examined for admission to Red Cross Home	414
Attendances at Director's Consultant Centre for advice	2,307
Total number of children examined or advised at Centre	3,788

One hundred and ninety-eight blood counts, 80 specimens of urine, 20 cellophane swabs, 20 specimens of faeces for fat analysis were examined at the Laboratory of Micro-Biology and Pathology.

Fifty-six children were referred to hospital, 35 to own doctors, 26 to X-ray department, 3 to Radium Clinic, 1 to Spastic Centre, 2 to Dental hospital and 4 to Psychiatry Clinic.

Two hundred and eighteen Rectal swabs were examined at the Medical Research Institute, 11 infants gave positive swabs for Salmonella and 8 for *E. Coli O.III.*

Of the 414 babies and toddlers from Director's Consultant Centre and Pre-school Health Centres who had blood counts done, 180 had Haemoglobin levels below 10 gms. per 100 mls.

Pre-School Health Centres.

At the fifteen centres and seven kindergartens, children from the age of one to six years were examined at six monthly intervals.

Mothercraft Class, Winton, North-Western Queensland.

MATERNAL & CHILD WELFAR RAILWAY CAR

Mothercraft Class, Hughenden, North-Western Queensland.

The total number of examinations made during the year was 4,388, of which 1,984 were first examinations and 2,404 were subsequent examinations. The total examinations during the previous year numbered 4,001.

There is a considerable increase in the number of first and subsequent examinations over the previous year.

The following table shows the main abnormalities found at half yearly examinations:

Enlarged Tonsils	762
Knock Knees	536
Flat Feet	189
Bow Legs	108
Anorexia	98
Umbilical Hernia	79
Intoeing	72
Carious Teeth	69
Stained Teeth	57
Skin Rash	57
Teeth Filled	48
Teeth Extracted	38
Thread Worms	38
Tonsillitis	37
Systolic Murmer	36
Adenoiditis	20
Allergy	20
Enuresis	18
Asthma	16
Chalky Teeth	14
Undescended Testes	14
Dirt Eating	13
Bronchitis	12
Squint	9
Hydrocele	6
Otitis media	6
Impetigo	6
Naevus	4
Gingivitis	4
Deafness	3
Ringworm	2
Pronated Feet	2
Talipes	2
Mouth Breather	2
Mental Retardation	2
Stomatitis	1
Pink Disease	1
Scabies	1
Anal Fissure	1
Enlarged Heart	1
Hypospadias	1

Two hundred and sixteen blood counts, 50 specimens of urine, 3 cellophane swabs were examined at the Laboratory of Micro-Biology and Pathology.

Nine children were referred to their own doctors for treatment, 18 were referred to Hospital, 27 were referred to X-ray Department, 6 to Psychiatrist, 6 to the Radium Institute, 1 to the Accoustic Laboratory, 4 to the Speech Therapy Clinic and 15 to dentists.

COUNTRY CENTRES.

The total number of examinations at Country Centres are as follows:—

—	New patients.	Subsequent visits.	Total.
Cairns	209	178	387
Rockhampton	78	45	123
Toowoomba	58	74	132
Townsville	124	139	263
	469	436	905

The following table shows the main abnormalities found at half yearly examinations:—

TABLE LXXIII.

Knock Knees	18
Flat Feet	15
Enlarged Tonsils	14
Inversion	12
Umbilical Hernia	11
Threadworms	6
Bow Legs	4
Carious Teeth	4
Inguinal Hernia	3
Enuresis	3
Tonsillitis	2
Anaemia	2
Mouth Breather	2
Systolic Murmer	2
Impetigo	2
Squint	1
Deafness	1
Intoeing	1
Skin Rash	1
Dirt Eating	1
Mental Retardation	1
Curvature of Spine	1
Fibrocystic Disease of Pancreas	1

Sixty-seven children were referred to own doctor, 11 to dentist and 1 to hospital.

During the year, cupboards were delivered to Woolloongabba and Sandgate Centres.

Age of examination has been extended from five to six years in conjunction with school commencing age. Hamilton Clinic was closed on 8th August, 1952, attendance at this Centre has always been poor and a Clinic was opened at Sandgate on 10th September, 1952. It was thought a Clinic here would be in the better interest of the public, and already the average attendance is double that of Hamilton. The attendance day of the Clinic at Bulimba was altered from first Wednesday afternoon to the second Thursday afternoon in each month. Children attending Kindergartens of the Creche and Kindergarten Association and State Kindergartens were medically examined twice during the year. Of these Kindergartens, seven are visited by the Deputy Director or Assistant Director and the children from the three remaining State Kindergartens, Ipswich, Rosalie, and Ashgrove, are brought to the Centres by their mothers.

Toddler's Clinics were closed for a period of one month from 19th December, 1952, to 16th January, 1953.

CORRESPONDENCE SECTION.

Birth notifications received from Centres have increased. Whilst Goondiwindi and Longreach Centres were closed, the birth notifications were forwarded to this Section, increasing the number received.

The number of No. 2 circulars posted to mothers, not within reach of a Centre, have increased, also partly due to the above Centres being temporarily closed.

Birthday cards have been forwarded to babies at one year whose mothers have been corresponding with this Section.

TABLE LXXIV.

Number of birth notifications received ..	3,414
Number of circular letters posted—	
(1) Within reach of Centre	1,020
(2) Not within reach of Centre ..	2,405
Number of follow-up circular letters posted	2,086
Visits to Centres in response to Circular letter No. 1	537
Letters to Correspondence Section in response to Circular letter No. 2 ..	587
Letters of advice *re* feeding and management sent on request	1,246
Number of " Care of Mother and Child " books sent on request	829
Number of Birthday Cards posted ..	80
Number of 6 month Greeting Cards sent advising diphtheria immunisation ..	2,752

SOCIAL WELFARE SERVICE.

With the growth of the city extending into outlying suburbs, there are many new homes in distant and scattered areas, and many small babes in these homes, which necessitates further travelling by the cars for the care of these infants. Being new districts, many of the streets are not yet named, and there are no numbers to the homes, which often causes delay in the finding of the place required.

Due to early discharge of mothers and babes from hospitals, some mothers being discharged from hospital on the fifth and sixth day, the call on the Social Welfare Service is still constant.

Many mothers are not strong enough to go to the Clinic, and the number of premature babes just on the 5 lb. or a little over the 5 lb. mark, being taken home from hospital, seems to be on the increase.

The incidence of small premature and frail babes, who are artificially fed, seems to be very large. Many mothers do not seem to have much idea of breast expression, and say they never could express much milk while in hospital, but when shown how to express, soon manage quite well. This could be one reason for the mother's failure to establish a supply for the babe, too frail to go to the breast. The greater number are due to failure of lactation, but some have been weaned by the doctor attending the mother.

Medical students have been fairly regular in attendance. Child Welfare trainees have appeared interested in the work. Many have said they did not realise the difficulties which could be met with in the homes, prior to doing this part of their training.

Comparison of figures—July, 1951, to June, 1952, total visits 4,191. July, 1952, to June, 1953, total visits 4,133.

Number of newborns visited in public hospitals	10,143
Number of newborns visited at home ..	428
Number of cases visited for test feeds and advice	4,133
Number of test feeds—cases	284
Number of test feeds—feeds	318

LECTURE DEMONSTRATIONS TO SCHOOL GIRLS.

The mothercraft teaching in the schools has not been as satisfactory as in former years. Owing to the time allotted for Domestic Science now being two and a-half hours a week, a large number of schools have not had the mothercraft lessons; this has been a disappointment to both pupils and parents.

Ipswich Technical College, Wynnum Intermediate, State Commercial High School, Domestic Science High School, North and South Brisbane Intermediate Schools, had their mothercraft lessons as usual, the lessons being given as in previous years in the ordinary school period.

Milton, Petrie Terrace, and Toowong made time available during the ordinary school period. Previously they were given during domestic time at Milton School. Mothercraft lessons have been given in some country centres. The Sisters on the Rail Car gave mothercraft lessons in all centres at which the train called, holding classes at the State and Convent Schools. At Mount Morgan Centre, Sister gave lessons at the Convent School, but was unable to arrange classes last year at the Intermediate School. This year she has arranged for them to be given in the first half of the year, and has had classes for both eighth and seventh grades, thus contacting the girls in eighth grade who missed the lessons last year.

In the metropolitan Centres, the usual functions were held towards the end of the school year when the certificates and prizes were presented to the successful candidates. In the country, the Sister on the Rail Car held very successful functions in the towns she visited. They were attended by the mothers, ministers of religion and other interested people. After the presentation of the certificates and prizes, Sister and the mothers arranged an afternoon tea for the girls and visitors. The certificates at the Mount Morgan Convent School were presented at the school breaking-up ceremony.

Thanks are due to those principals and head teachers of the various schools, who were interested in the work, and made time available for these very important lessons.

Maternal and Child Welfare Centre, Bundaberg.

TABLE LXXV.

Report for School Year ending 1952.

Date.	School.	Number in Class.	Number sat for Examination.	Number obtained over 60 per cent.
February	Ithaca Creek and Gap	60	52	47
April	Hamilton Domestic Science	64	46	42
	South Brisbane Intermediate	52	47	39
	North Brisbane Intermediate	44	39	39
May	Wynnum Intermediate	100	91	83
August	Ipswich Technical College	74	71	69
	Domestic Science High—			
	Sub-Seniors	10	7	7
	Practical Juniors	60	46	41
	Brisbane High School for Girls	14	13	13
December	Petrie Terrace	28	22	21
	Milton	43	36	30
	Toowong	32	27	27
	State High School	35	29	28
	State Commercial High	56	45	42
		672	571	528
	Country Centres—			
	St. Joseph's Convent, Mount Morgan	16	16	13
	Convent School, Winton	10	10	8
	State School, Winton	5	5	5
	State School, Richmond	8	8	6
	Convent School, Richmond	4	4	4
	State School, Julia Creek	5	5	5
	State School, Maxwelton	3	3	3
	State School, Hughenden	24	24	21
	Convent School, Hughenden	10	10	8
		85	85	73

Lectures and Demonstrations for Students of the Kindergarten Training College.

At the request of the Principal of the Kindergarten Training College, this Service again co-operated in the teaching of students from the College.

An illustrated lecture on "Child Health and Child Development" was given by Dr. T. H. R. Mathewson, and the Matron of St. Paul's Terrace Home gave a course of lectures covering feeding and feeding management of the infant and child from birth to school age, with special reference to the causes of feeding problems likely to be met in children attending kindergartens.

The reciprocal arrangement by which both trained nurse, students and child welfare assistants from the Homes in the metropolitan area are enabled to attend at kindergartens and the Lady Gowrie Child Centre and in the case of child welfare assistants to receive special lectures on the management of the pre-school child, play materials, &c., from a teacher of the Kindergarten Training College, continues to be a source of benefit to both groups.

Medical Students.

Four lectures were given to fourth year medical students on the "Development of the Normal Child," one on the aims and activities of the Maternal and Child Welfare Service including provision for care of dependent or State children and one lecture on statistics relating to Maternal and Child Mortality from birth to five years. Visits were made to Maternal and Child Welfare Centres.

Fifth year medical students were given four lectures on the care, feeding and management of infants during early life. Four demonstrations were given on the normal baby and foods used in infant feeding, and two demonstrations on babies and toddlers attending Maternal and Child Welfare Centres. Students visited St. Paul's Terrace Mothercraft Home, where they were informed of the aims of the Service, and given a demonstration of foods used in connection with the artificial feeding of babies and older children. The students were also shown the babies in residence, and the reasons for their admission explained.

Sixth year medical students attend Maternal and Child Welfare Centres, each student attending one day each week for five consecutive weeks. Students accompany the Social Service Sisters on visits to homes of mothers with newborn babies after discharge from hospital.

At the end of each term, a seminar was held when the babies seen during the term, were discussed.

Newspaper Articles.

During the year a copy of an article on some aspect of Maternal and Child Welfare work has been sent each month for publication to sixty-one newspapers in the State, including the "Queensland Agricultural Journal" and the "Queensland Dairyfarmer." The titles of the articles were:—"Winter Colds," "Do You Think Your Baby Cries Too Much," "Gastro-Enteritis," "Bed Wetting," "Reasons Why You Should Breast Feed Your Baby," "Antenatal Care," "Teeth," "Vitamins," "When Your Child is Sick."

Publications of the Service.

The revised booklet "Care of Mother and Child" has been published and has been distributed to all Centres in the State. "The Expectant Mother" booklet has not yet been revised, but it is hoped that the work of revision will commence soon.

Requests are still being received for "Problems of Prematurity," and "Ante-natal and Post-natal Exercises" is in constant demand from hospitals and doctors.

BABY CLINIC SOCIAL CLUB.

Baby Clinic Social Club has held meetings regularly throughout the year.

OVERSEAS VISITORS.

In October, 1952, Dr. Jean Mackintosh, Senior Assistant Medical Officer of Health for Maternity and Child Welfare, Birmingham, who was visiting Victoria under the auspices of the Scantlebury Brown and Nuffield Trusts, was invited by the Department of Health and Home Affairs to visit Queensland.

During her brief stay in Brisbane, Dr. Mackintosh gave lectures to medical students, paediatricians and members of the British Medical Association on subjects relating to Maternal and Child Welfare. Visits were made to the Maternal and Child Welfare Homes and Centres, Children's Hospitals, Brisbane Women's Hospital and Health Education Council.

Emphasis was placed by Dr. Mackintosh on the importance of preventive medical services, especially in the field of paediatrics. Ante-natal supervision of the health of expectant mothers has been of great benefit in the prevention of sickness in childhood.

Health visitors are employed in Birmingham with considerable success in the spheres of both ante-natal and child care. They have contact with hospital authorities and follow up patients in their homes after discharge from hospital. Their work also includes other branches of public health and preventive medicine, e.g., those dealing with tuberculosis, mental hygiene, health education.

Dr. Mackintosh was interested in health education from the aspects of teaching that subject in the schools and in adult education. She mentioned exhibitions and demonstrations held in Birmingham on "Safety in the Home" and "The Prevention of Accidents in Childhood."

Dr. Mackintosh lectured on the care of the deprived child. The work carried out in Birmingham is similar to that done here by the State Children Department. Of particular interest was the method of educating prospective adopting mothers in mothercraft. This is always done in the case of mothers who have adopted children in any of our Homes, but the Service is being extended to enable mothers, intending to adopt children, to attend the Mothercraft classes at Woolloongabba and Fortitude Valley Centres.

In Birmingham, there is close liaison between medical officers at the Maternal and Child Welfare Centres and those at the Children's Hospitals, with efficient follow-up of patients. Co-operation between Centres and general practioners is of great advantage in preventive medicine.

Dr. Mackintosh stressed the advantages to be gained from the interpretation of statistical trends, and quoted results from her own work in this respect. She advocated the teaching of social medicine in the University medical schools in conjunction with all subjects, showing students all its clinical applications. She recommended the practice which is already in force in this Service, i.e., that of taking medical students to see patients in their homes.

Sir Allen Daley, Chief Medical Officer of Health, and Chief School Medical Officer, London County Council, visited Brisbane in March, 1953. Visits of inspection were made to St. Paul's Terrace Home, Woolloongabba, and Paddington Centres, and the Ipswich and Toowoomba Homes.

TABLE LXXVI.

DISEASES AND ACCIDENTS OF PREGNANCY.

1. Haemorrhage of Pregnancy.—		
Bowen Hospital	1	Ectopic
B.G.H.	1	
Mount Isa Hospital	1	
Caboolture (Mount Mee West)	1	
Mount Morgan (East street, Mount Morgan)	1	
2. Toxaemias.—		
Bundaberg Hospital	1	
Clermont Hospital	1	
Innisfail Hospital	1	
Laidley Hospital	1	
Stanthorpe Hospital	1	
Warwick Hospital	1	
Winton Hospital	1	
Brisbane (Fernoy Hospital)	1	
Mackay (Mater Hospital) ..	1	
3. Other Complications of Pregnancy.—		
Mount Isa Hospital	1	

TABLE LXXVII.

DISEASES AND ACCIDENTS OF CHILDBIRTH.
DISTRIBUTION.

Brisbane—		
Brisbane Women's Hospital (Public)	1	Ante-Partum
Brisbane Women's Hospital (Intermediate)	1	Post-Partum
Nundah Private Hospital ..	1	Ante-Partum
Berilda Private Hospital ..	1	Post-Partum
Gin Gin Hospital	1	Post-Partum
Surfers Paradise—		
Ludoma Private Hospital ..	1	Ante-Partum

TABLE LXXVIII.

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS.

Year.	Visits to Newborns.	Subsequent and Other Visits.	Total Visits.
1950–1951	24,191	2,667	26,858
1951–1952	25,801	1,593	27,394
1952–1953	25,298	939	26,237

TABLE LXXIX.

ATTENDANCES AT CENTRES.

Number of New Cases seen at the Centres.

	1950–51.	1951–52.	1952–53.
Infants—			
Under one year ..	17,567	18,076	18,180
One to two years..	5,087	4,935	5,310
Over two years ..	2,146	2,244	2,201
Total ..	24,800	25,255	25,691
Expectant mothers ..	756	732	827
Total new cases	25,556	25,987	26,518

TABLE LXXX.

ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES.

Metropolitan.

—	1950–51.	1951–52.	1952–53.
Fortitude Valley ..	19,804	16,925	17,611
Branches—			
Caboolture (to 5–1–52)	661	416	..
Clayfield	1,624	1,139	1,484
Dayboro (to 5–1–52)	183	184	..
Enoggera (to 30–11–51)	1,522	929	..
Hamilton ..	1,028	1,026	1,425
Hendra	1,102	1,566	1,380
Mitchelton (to 30–11–51)	1,340	499	..
Newmarket-Grange	1,114	976	802
Wacol Immigration Centre (opened 7–1–53)	..	..	453
Windsor	1,880	1,912	1,812
	30,258	25,572	24,967
Herschell Street ..	13,407	12,356	11,225
Branches—			
Ashgrove (to 30–11–51)	3,253	1,436	..
Bardon (to 30–11–51)	1,837	616	..
Corinda	2,409	2,053	2,036
Darra	454	718	683
Enoggera (from 1–12–51)	..	911	1,523
Graceville.. ..	2,137	2,426	2,105
Immigration Centre Enoggera (opened 7–1–53)	..	..	398
Indooroopilly ..	1,432	1,252	1,213
Kelvin Grove (to 30–11–51)	1,222	474	..
Mitchelton (from 1–12–51)	..	701	1,509
Paddington (to 30–11–51)	1,486	770	..
Rosalie (to 30–11–51)	1,809	669	..
St. Lucia	386	548	497
Toowong	1,594	1,536	1,648
	31,426	26,466	22,837

Metropolitan—continued.

—	1950–51.	1951–52.	1952–53.
Nundah	6,144	5,808	5,277
Branches—			
Cribb Island (to 5–1–52)	288	113	..
Geebung	378	653	746
Kedron	3,391	3,544	3,462
Northgate (opened 10–4–53)	..	..	138
Redcliffe (to 5–1–52)	1,913	1,006	..
Sandgate (to 5–1–52)	3,145	1,703	..
Wavell Heights (opened 4–12–52)	..	..	174
Zillmere	328	667	1,026
	15,587	13,494	10,823
Paddington (from 1–12–51)	..	1,861	4,381
Branches—			
Ashgrove (from 1–12–51)	..	2,261	3,951
Bardon (from 1–12–51)	..	604	987
Kelvin Grove (from 1–12–51)	..	501	1,301
Rosalie (from 1–12–51)	..	966	1,364
	..	6,193	11,984
Sandgate (from 7–1–52)	..	1,896	4,159
Branches—			
Caboolture (from 7–1–52)	..	504	1,173
Cribb Island (from 7–1–52)	..	168	389
Dayboro (from 7–1–52)	..	125	293
Redcliffe (from 7–1–52)	..	988	2,415
	..	3,681	8,429
South Brisbane Sub-centres—			
Archerfield (opened 5–11–51)	..	194	396
Bulimba (from 2–7–51)	..	2,181	2,168
Camp Hill (from 2–7–51)	..	1,850	2,191
Holland Park (from 2–7–51)	..	2,435	2,538
Morningside (from 2–7–51)	..	2,018	2,420
Stones Corner (from 2–7–51)	..	969	1,030
	..	9,647	10,743
West End	7,749	7,709	7,752
Branch—			
Beenleigh ..	745	546	634
	8,494	8,255	8,386

Metropolitan—continued.

—	1950–51.	1951–52.	1952–53.
Woolloongabba	17,717	18,533	20,507
Branches—			
Bulimba (to 30–6–51)	1,551	..	..
Camp Hill (to 30–6–51)	1,644	..	..
Coopers' Plains (opened 3–11–52)	..	..	346
Ekibin	949	1,006	1,066
Holland Park (to 30–6–51)	1,916	..	..
Holland Park T.H.E.	559	729	694
Ipswich Road ..	1,998	1,753	1,398
Morningside (to 30–6–51)	1,863	..	..
Rocklea T.H.E. ..	585	961	979
Salisbury	852	729	855
Stones Corner (to 30–6–51)	635	..	..
Yeronga	1,615	1,487	1,711
	31,884	25,198	27,556
Wynnum	8,221	9,502	8,174
Branches—			
Cleveland ..	725	728	614
Manly (opened 9–11–51)	..	547	1,230
	8,946	10,777	10,018

Country.

—	1950–51.	1951–52.	1952–53.
Atherton	2,462	2,089	2,201
Branches—			
Herberton ..	372	415	303
Malanda	701	687	641
Millaa Millaa ..	590	768	665
Ravenshoe ..	735	725	691
Tarzali (closed 8–6–51)	31	..	..
Yungaburra ..	170	159	160
	5,061	4,843	4,661
Barcaldine	1,251	1,381	1,206
Branches—			
Alpha (from 2–4–51)	51	196	254
Aramac	230	197	196
Jericho (from 2–4–51)	33	170	105
Longreach (to 2–4–51)	1,188	..	..
	2,753	1,944	1,761
Biloela	2,661	3,426	3,865
Branches—			
Baralaba	120	379	423
Goovigen	172	224	249
Jambin	63	163	188
Moura	118	177	162
Thangool	330	400	350
Theodore	257	523	376
Wowan	427	497	547
	4,148	5,789	6,160
Bowen	2,161	1,996	2,138
Branches—			
Collinsville ..	1,088	833	1,180
Murroona ..	192	324	436
Proserpine ..	1,714	1,196	1,120
	5,155	4,349	4,874
Bundaberg	8,410	8,019	7,047
Branches—			
Gin Gin	454	590	411
Miriam Vale (from 5–1–51)	117	245	227
	8,981	8,854	7,685
Cairns	10,920	9,732	8,849
Branches—			
Cooktown (opened 6–9–50)	179	240	340
Earlville (opened 2–8–50)	670	554	501
Edge Hill ..	1,329	1,050	1,351
Edmonton ..	429	441	538
Gordonvale ..	1,007	899	937
Kuranda	179	177	168
Mossman	1,016	828	923
	15,729	13,921	13,607
Charleville	2,966	3,581	4,512
Branches—			
Cunnamulla ..	884	657	1,077
Morven (opened 3–4–52)	..	8	140
Quilpie	456	184	327
	4,306	4,430	6,056
Charters Towers ..	3,187	3,110	3,557
Dalby	3,028	2,846	2,803
Branches—			
Chinchilla.. ..	1,533	1,410	1,715
Miles	742	674	659
	5,303	4,930	5,177
Emerald	1,172	1,157	774
Branches—			
Alpha (to 1–4–51)	51	..	..
Blackall (to 1–4–51)	494	..	..
Blair Athol ..	250	264	149
Capella	112	137	88
Clermont	312	327	116
Jericho (to 1–4–51)	19	..	..
Springsure ..	450	349	181
	2,860	2,234	1,308
Gayndah	1,151	1,200	1,265
Branches—			
Eidsvold	188	220	188
Monto	1,029	1,309	1,228
Mulgeldie ..	59	164	182
Mundubbera ..	514	918	1,026
	2,941	3,811	3,889
Gladstone	4,886	4,881	5,043
Branches—			
Calliope	195	165	250
Miriam Vale (to 4–1–51)	220	..	..
Mount Larcom ..	1,136	945	853
	6,437	5,991	6,146
Goondiwindi ..	1,386	1,458	681
Branches—			
Dirranbandi ..	281	300	233
Inglewood ..	609	693	390
Texas	440	449	291
Yelarbon	264	284	163
	2,980	3,184	1,758

Country—continued.

—	1950–51.	1951–52.	1952–53.
Gympie	6,078	6,255	6,445
Branches—			
Cooran	258	349	353
Imbil	224	330	559
Kandanga	256	219	188
Pomona	412	451	459
	7,228	7,604	8,004
Ingham	2,240	2,618	2,180
Branches—			
Cardwell	317	263	76
Halifax	822	711	257
	3,379	3,592	2,513
Innisfail	5,148	4,169	5,260
Branches—			
Babinda	1,047	991	1,107
El Arish	229	185	139
Mourilyan	174	120	128
Silkwood	179	142	183
South Johnstone	196	192	291
Tully	1,514	1,327	1,499
	8,487	7,126	8,607
Ipswich	12,123	12,200	11,303
Branches—			
Boonah	1,468	1,185	1,239
Esk	566	503	432
Laidley	836	688	488
Lowood	273	161	162
Rosewood	1,192	1,275	1,042
Somerset Dam	255	151	126
Toogoolawah	720	613	773
	17,433	16,776	15,565
Kingaroy	2,668	2,874	2,407
Branches—			
Kumbia	264	280	300
Nanango	546	476	378
Yarraman	150	180	215
	3,628	3,810	3,300
Longreach (from 2–4–51)	572	1,397	651
Branches—			
Blackall (from 2–4–51)	498	1,331	693
Muttaburra (opened 3–8–51)	..	80	26
	1,072	2,808	1,370
Mackay	7,945	7,407	7,172
Branches—			
Calen (opened 19–6–51)	3	128	201
Finch Hatton	385	399	497
Koumala	297	170	200
Marian (opened 25–1–51)	137	291	312
North Mackay	1,493	1,891	2,128
Sarina	1,251	1,550	1,402
	11,511	11,836	11,912
Mareeba	2,809	2,251	3,132
Branches—			
Dimbulah	872	550	255
Mount Mulligan	329	245	223
	4,010	3,046	3,610

Country—continued.

—	1950–51.	1951–52.	1952–53.
Maryborough	7,549	7,621	8,067
Branches—			
Biggenden	713	613	691
Childers	558	572	543
Howard	459	616	574
Pialba	544	696	753
	9,823	10,118	10,628
Mount Isa	3,053	3,987	3,412
Branches—			
Camooweal	219	114	94
Cloncurry (from 2–1–51)	227	489	837
	3,499	4,590	4,343
Mount Morgan (from 21–8–50)	2,477	2,727	2,871
Branches—			
Baree (opened 5–6–51)	28	422	302
Red Hill (opened 7–6–51)	6	61	48
	2,511	3,210	3,221
Murgon	1,642	1,801	1,748
Branches—			
Goomeri	672	914	1,052
Hivesville	99	45	81
Kilkivan	311	260	227
Proston	214	238	233
Wondai	1,125	1,348	1,061
	4,063	4,606	4,402
Nambour	4,737	3,550	3,555
Branches—			
Buderim	236	78	172
Caloundra	624	406	350
Cooroy	1,224	826	1,138
Eumundi	165	252	274
Landsborough	159	184	266
Maroochydore	525	480	614
Palmwoods	334	342	321
Yandina	235	209	329
	8,239	6,327	7,019
Railway Car—			
Winton	424	579	684
Cloncurry (to 1–1–51)	202	..	..
Dajarra (to December, 1950)	36	..	..
Hughenden	936	1,173	1,545
Julia Creek	500	558	746
Kajabbi (to December, 1950)	26	..	..
Maxwelton (from 19–3–51)	103	164	135
Richmond	396	261	507
	2,623	2,735	3,617
Rockhampton	15,565	14,211	11,689
Branches—			
Mount Morgan (to 20–8–50)	288	..	..
North Rockhampton (opened 21–8–50)	1,175	1,551	1,540
Ogmore	176	280	189
St. Lawrence	465	332	272
Yeppoon	1,062	1,067	856
	18,731	17,441	14,546

Country—continued.

—	1950-51.	1951-52.	1952-52.
Roma	2,321	1,350	2,260
Branches—			
Dulacca	103	49	125
Jackson	121	93	85
Mitchell	1,196	768	910
Surat	355	211	236
Wallumbilla . .	196	97	134
Yuleba	176	214	160
	4,468	2,782	3,910
Southport	3,286	2,539	3,001
Branches—			
Beaudesert . .	1,689	1,496	1,365
Burleigh Heads . .	352	771	742
Coolangatta . .	2,567	2,548	2,598
	7,894	7,354	7,706
Toowoomba . .	9,983	9,640	9,261
Branches—			
Clifton	369	443	298
Crow's Nest . .	555	589	587
Forrest Hill . .	146	157	98
Gatton	1,353	1,201	1,216
Harristown . .	507	685	603
Oakey	753	633	641
Pittsworth . .	962	1,065	860
	14,628	14,413	13,564

Country—continued.

—	1950-51.	1951-52.	1952-53.
Townsville	12,530	14,122	13,510
Branches—			
Ayr	3,742	4,340	4,149
Giru	585	653	593
Home Hill . .	2,551	2,693	2,023
	19,408	21,808	20,275
Warwick	3,798	3,670	4,368
Branches—			
Allora	337	396	638
Killarney . .	414	397	468
Stanthorpe . .	2,112	1,681	1,620
	6,661	6,144	7,094
Social Welfare Services	1,877	4,191	4,133

TABLE LXXXI.

Total Attendances of Infants and Children and Expectant Mothers.

1950-51.	1951-52.	1952-53.
361,977	367,748	372,326

TABLE LXXXII.

Ante-natal Clinics.

Centre.	1950-51.		1951-52.		1952-53.	
	New Cases.	Attendances.	New Cases.	Attendances.	New Cases.	Attendances.
Fortitude Valley	58	408	67	519	74	540
Woolloongabba	86	534	111	778	132	1,076
Caboolture	24	112	28	188	38	260
Herschell Street	15	30	13	19	17	22
West End	6	21	12	24	13	18
	189	1,105	231	1,528	274	1,916

DIVISION OF SCHOOL HEALTH SERVICES.

Chief Medical Officer: P. R. PATRICK, M.B., B.S. (Qld.).
Chief Inspector, School Dental Services: E. W. HAENKE, L.D.Q.

During the past year, the number of medical and nursing staff has remained approximately the same. Existing vacancies on the nursing staff were filled and approval has been given for a further appointment to the country staff to meet increasing enrolments at schools. It is hoped an appointment will be made to the vacant position of medical officer in the immediate future.

In the areas where medical officers are stationed, children being admitted at school for the first time are given a complete physical examination. In addition, children specially selected, after screening examinations by school nurses, are examined by medical officers. In many country areas, the medical examination consists only of this screening examination and children with suspected physical defects are referred to private practitioners or public hospitals. While the screening examinations find many defects, it must be restricted within the limits of the nurse's professional training. The service would be greatly improved by the appointment of additional medical officers to carry out similar examinations to those in force in Brisbane and North Queensland.

Four vacancies which exist on the dental staff have not been filled because of lack of suitable applicants. By re-arrangement of the staff, it has been possible to keep all but two dental districts staffed with at least one dentist. In many instances, however, the number of children allotted to one dentist is more than the number one officer can cope with and give a frequent service. Dentists are still apparently attracted to the amenities of the city and the higher remuneration of private practice.

ROUTINE MEDICAL INSPECTIONS.

During the year, medical officers and school sisters examined 80,948 children. Of these, 22,153 were attending Brisbane schools and 58,795 were at country schools. Of the Brisbane children, 6,914 were examined by a medical officer, who inspected new admissions and children referred by school sisters. To examine these children, officers visited 62 Brisbane schools and 685 country schools.

The total number of defects notified to parents was 3,892 which constitutes approximately 5 per cent. of all children examined. From returns received during the year from head teachers, it was noted that at least 70 per cent. of parents acted on advice from school health officers.

COMMUNICABLE DISEASES IN SCHOOLS.

While the incidence of communicable diseases in Queensland school children was not alarming, there are certain points which need special mention.

Diphtheria.—The number of diphtheria cases reported amongst school children was the highest for some years, but no epidemics occurred in schools, cases generally being reported singly from scattered areas. On the occasions when more than one case occurred, it was often in members of one family. One point which emerges from an analysis of the cases is the occurrence of diphtheria in children, immunised in infancy, but with no subsequent booster doses. In the metropolitan area, there was one death amongst these cases. The parent believed the child to be safe from diphtheria and called medical assistance only after it was too late. The percentage of children, who have initial immunisation against diphtheria, remains high, being 93 per cent. in Brisbane schools and 92 per cent. in country schools. There is need, however, to stress the importance of a further booster at school entry age.

Poliomyelitis.—The occurrence of 95 cases of poliomyelitis amongst school children was lower than the number reported for the preceding two years. The reduction was mainly due to the decrease in the number occurring in metropolitan schools. The 20 cases reported amongst Brisbane school children came from 19 schools. In only one school was more than one case reported, and here there were several months between the cases. Likewise in the country, the incidence was generally in single cases and the greatest number reported from any one school was three.

Scarlet Fever.—During the winter and spring of 1952, the incidence of scarlet fever in Brisbane school children was higher than normal. In July, 1952, 74 cases occurred. Many of these were at a large suburban school, from which 48 cases were reported. The other cases were spread over 57 schools, often only one case occurring in a school. The cases generally were of a mild nature. No definite cause was found for the high incidence in one school, while the incidence elsewhere was sporadic.

In the country schools, there was nothing unusual in the incidence, both as regards season and distribution. The number of cases in both Brisbane and country schools has been less during the first six months of 1953 than during the latter half of 1952.

Immunisation.—School Sisters continued to help local authority health departments at Brisbane and Ipswich in their immunisation campaigns. At Brisbane schools, 839 children (including 514 pre-school children) received initial diphtheria immunisation, and 4,061 received booster diphtheria doses. One thousand two hundred and ninety-six children of school leaving age were immunised against tetanus and 45 received booster doses against tetanus.

At Gatton College, School Health Services officers immunised 368 students against tetanus. These included initial immunisation courses and booster doses.

SERVICES TO REMOTE AREAS.

The policy of Queensland School Health Services in the distribution of available staff is to give priority to country children. No member of the dental staff treats children in the capital city. All school dentists work in country schools. Only five of the nursing staff are allotted to Brisbane schools. While some of the field staff use official cars to visit schools in remote areas, others hire private transport to visit schools not served by public transport. The cost of the private transport used in this manner is borne by the department. During the past year, dentists visited 150 schools and examined 4,092 children at schools away from public transport. At 220 similar schools, nurses examined 5,660 children.

The greatest boon to country children in the provision of dental services has been the rail dental clinics. These clinics, with their modern dental surgeries for children in reasonable access to the rail-head and their portable equipment for those at far distant places off the rail-head, have continued to give excellent service during the year. An example of what is close to ideal service is that given by Rail Dental Clinic No. 4 which serves the schools along the North-western Railway. Since this clinic commenced operation in 1950, it has been possible to give an annual dental service to school children in the area. Children at such schools as Camooweal and Dajarra have benefited greatly by this regular service. In the Central-western area served by Rail Dental Clinic No. 2, the time taken to complete the territory is approximately eighteen months due to the larger number of children at schools in the Dawson Valley Line, which is also served by this Clinic. Unfortunately, in other areas, due to larger numbers of children allotted to each dentist, children in remote areas have to wait longer periods for a dental service. However, when more staff is available, country children will continue to receive priority.

In an endeavour to include all children in the available services, children who receive their education by correspondence lessons also receive school dental services. While the number of 52 children thus attended to during the year is not great, it does illustrate that every child receives attention when it is available. Fine co-operation is received from the Supervisor of the Primary Correspondence School in arranging these services.

SPECIAL EDUCATION.

Normal healthy children vary from one another to such a degree that their education must be adapted as far as possible to suit their varying needs. Children with a particular handicap, even more so, require special arrangements for their education. These special arrangements may be fitted within the framework of the ordinary school curriculum or it may involve the provision of special schools or classes. While the education of children with a particular handicap remains the responsibility of the educationist, the diagnosis and assessment of the degree to which a particular defect will handicap school progress involves medical opinion. There is a need for close co-operation in these matters between the School Health Services and those in the Education Department responsible for special education. During the year, there has been very close collaboration between the Research and Guidance Branch of the Department of Public Instruction and School Health Services. There has been a mutual reference of cases, special examination in particular cases, and School Health Services has frequently acted as a liaison force with outside medical agencies.

The Mentally Deficient Child.—Children with intelligence below average may be classed into three main groups:—

The dull, backward children.

The educable mentally deficient, and

The ineducable.

The dull, backward children are not a great problem. They are often quite suitably catered for at an ordinary school by retardation, or by occupying the lower places of the class. In some instances, they enter special classes.

It is the second and third groups which need special requirements, and on which, during the year, there has been close collaboration between School Health Services and Officers of Research and Guidance Branch of the Department of Public Instruction.

During routine medical examinations at schools in the Brisbane area, children are found who appear to be mentally deficient. All such children are referred for further intelligence testing at the Research and Guidance Branch. Two hundred and fifty-four children were referred in this manner.

In addition to this group, children attend the Research and Guidance Branch after being referred there in the first instance through other sources. These children are also medically examined after an interview with the parents at the School Health Services Headquarters. By these thorough investigations, physical causes for backwardness, such as deafness or defective vision, are discovered, the intelligence is assessed and a decision regarding schooling can be made. In many instances, the final opinion is unfortunately that of ineducability, and the admission to the Opportunity schools has to be refused.

In addition to the preceding examinations, special examinations are also performed for the Remedial Education Centre at the University of Queensland. The children examined are of normal intelligence, but for some reason, are not progressing educationally in proportion to their ability. Special care is taken to find whether there is any physical defect causing this retardation.

As in former years, children already attending Opportunity schools and classes were given a routine annual medical examination.

The Deaf Child.—It is now fifteen years since the 1938 rubella epidemic, which later resulted in an increase in the number of deaf children in this State and increased enrolment at the School for the Deaf. These children are now reaching the end of their primary schooling, and from the end of the present calendar year, there should be a reduction in the number of children attending that school. There will still be a large number enrolled as a result of the 1941 epidemic, but these too will be leaving in approximately three years. The number of 219 at present at the school is expected to be the largest for some years to come.

Tests for hearing are part of the routine medical examinations conducted at schools. In the Toowoomba and Townsville areas, school nurses use portable audiometers supplied by the Commonwealth Acoustic Laboratory. Out of 1,266 children tested in this way, 14 were found to have some degree of hearing loss and were referred for further testing at the Commonwealth Acoustic Laboratory.

The Blind Child.—Blind children in this State, due to their small number, are not a great problem as regards education. The 19 children attending the Blind School at Annerley are adequately catered for. This number is much less than that which English education authorities estimate as the average number of blind children to be expected in a child population. The English Ministry of Education estimate the number of blind children in a community to be 0·2 to 0·3 per 1,000 registered pupils. Using these figures, the number of blind children in Queensland would be 40 to 50.

SPECIAL URINE EXAMINATION OF SCHOOL CHILDREN.

In co-operation with Dr. D. A. Henderson of the Queensland Institute of Medical Research, special urine examinations of school children commenced towards the end of the year as part of an investigation into the incidence of nephritis in Queensland.

Using salicyl-sulphonic acid as a testing agent, it has been found possible to include an examination of urine for albumin as part of the screening examination by a school nurse. Further microscopic examination of urines showing albumin is carried out at the Institute and the results are posted to the parents of the children. The numbers examined so far are very few, but the examination has already confirmed results found by other workers, viz., many children have albuminuria of no pathological significance. It is hoped to extend the examinations in the coming twelve months.

SCHOOL HEALTH EDUCATION.

It is generally agreed that health education is a very important part of a school health programme. Such health instruction may be given to children directly by class teachers and school health officers, and indirectly by providing them with a healthful physical environment at school. In Queensland, teachers play a very important part in the programme by giving direct health teaching, using as a guide, the hand book, "Subject : Health," published by the Queensland Health Education Council and introduced into Queensland schools four years ago. Recently, the Queensland Health Education Council re-edited this book and arranged for the publication in Brisbane of sufficient copies for its use by all schools in Western Australia as a result of a request from that State.

While the recent introduction of health talks in schools is a welcome addition to the health programme, there are still ways to improve the school health instruction. Two plans for future development are the publication of a supplementary health reader for younger children and an investigation of the training of teachers in health education. The Queensland Health Education Council is at present waiting for a health primer for the seven to nine years age group to come from the publishers. This will be then distributed to all schools. Later in this report, mention is made of a committee appointed to enquire inter alia into the training of teachers in health instruction.

SCHOOL MILK SCHEME.

The Commonwealth Government's scheme of free milk for school children was extended to Queensland, when the Department of Public Instruction made the necessary arrangements to inaugurate the scheme in March, 1953. Brisbane school children were the first to benefit from the scheme, under which each school child under the age of thirteen is supplied at school daily with one-third pint of pasteurised milk. Since its commencement in Brisbane, the scheme has been extended to Warwick, Southport, Nambour, Maryborough, Townsville and Innisfail. Altogether, 79,568 school children from 173 State and 102 Church schools are receiving milk at present. In addition, 2,441 children at Kindergartens receive milk under the Scheme. It is expected to extend this arrangement during the next twelve months.

The part played by School Health Services has been an advisory one, and help has been given on deciding matters in which the health of the children is involved. In the metropolitan area, head teachers immediately contact the Chief Inspector of Food and Drugs whenever any milk is regarded as being unsatisfactory. In those country towns where no food inspector is stationed, the local health inspectors are informed in similar cases.

EXAMINATION OF TEACHER TRAINEES.

The number of student teachers entering the Training College showed a great increase over recent years. Altogether, the number of students of all categories, junior, senior, adult and graduate, requiring medical examinations was 632. These examinations were carried out by medical officers from School Health Services, and included tuberculin testing and chest X-rays, where necessary, by the Director of Tuberculosis. Of the large number presenting, it was found necessary to reject only six applicants. Three students were rejected for defective hearing after investigation by the Commonwealth Acoustic Laboratory. Other reasons for rejection were rheumatic carditis, albinism with defective hearing, and psychological unsuitability.

VISIT OF CHIEF MEDICAL OFFICER OVERSEAS.

The Chief Medical Officer was awarded a travelling fellowship for 1952 by the National Health and Medical Research Council, and with additional financial help from the Queensland Government, visited England and the United States to study School Health Services in those countries. In his report the following points were made:—

In the United States, co-ordinating committees, representing various departments, greatly facilitate the working of school health services.

Both countries include health education as a major activity of school health work. England uses personal contact by school health personnel with the parents and children to achieve this purpose. In the United States, many schools include direct health teaching in the curriculum.

While England is still relying on medical officers to perform the greater bulk of school medical inspections, the United States workers believe that modern methods of screening are demonstrating that less highly trained observers can be used to conserve the time of the medical officer. In the latter country, in addition to the school nurse, the teacher plays quite a big part in the school health programme.

In both countries, the services for handicapped children are closely allied to school health work, and there is an emphasis on earlier diagnosis and provision of educational facilities for the handicapped child at an early age.

An appreciation of the school health service in Queensland under the above points is contained in the following brief outline.

Ministerial approval has recently been given for the Supervisory Committees responsible for the contents of the Health Education handbook, "Subject: Health," used by teachers in Queensland to continue to function and make recommendations regarding health education training of teachers, school furniture and physical education. This committee will be of great assistance in improving the liaison between the various departments concerned with the health of the school child. The direct teaching of Queensland children in health education by the class teacher compares favourably with that given in American schools but it is felt that consideration should be given to obtaining greater parental contact by interviews at the school.

In Queensland, school nurses have for many years performed the bulk of medical examinations at schools. There is, however, a need for more medical officers to supervise the work of the school nurse and conduct more complete examinations in certain instances.

In special education of handicapped children, there is close co-operation between School Health Services and the Department of Public Instruction in this State. There is room for considerable expansion of the services for certain categories of handicapped pupils. While the education of the totally blind and totally deaf in Queensland is good, provision for the partially deaf and partially sighted leaves much to be desired. The education of the educable mentally defective has been handicapped by the admission to Opportunity schools of ineducable children.

STAFF CONFERENCES.

It is proposed to hold two staff conferences for medical officers and school nurses in Brisbane and Townsville respectively early in the new financial year, when subjects concerning the professional side of school health work will be discussed. Owing to the distance of their districts from Brisbane, school nurses do not have many professional contacts with other members of the staff. In addition, many of them work singlehanded and although it is possible for the Chief Medical Officer to make field contacts at reasonably frequent intervals, for the most part, their work is not supervised. It is believed that a staff conference will greatly benefit individual members and improve the service generally. It will serve as a refresher course for many nurses who have been with the service for some years. Recent trends in School Health work overseas and the advisability of introducing new ideas in Queensland will be included in the agenda.

TRACHOMA IN SCHOOL CHILDREN.

In March, 1952, the Wilson Ophthalmic School Hostel, where children with severe trachoma were treated, was handed over to the Children's Hospital for other purposes due to the very few children needing such treatment. Since that date, there has been very little call on hospitals to arrange alternative facilities as the severe cases of the disease are still very few. In Western Queensland, where once the disease was high in incidence and severity, the local medical practitioners still visit schools to inspect the children's eyes. Their reports show that while such supervision is necessary in some areas, the disease continues to be very mild. Records show that during 1953, the number of children being treated for trachoma by the part-time ophthalmic officers was 78.

Approval has been given for Dr. E. O. Marks, part-time Ophthalmologist to visit Western Queensland schools in the spring of 1953 to ascertain the present overall position regarding the disease.

THE DENTAL SERVICES.

One of the problems in providing health services for country children in Queensland is the distance between schools. This is one of the reasons why difficulty is experienced in recruiting officers—both medical and dental, as it involves lengthy periods away from home.

In Queensland, the school dentists provide services for children outside the large cities. In Brisbane and many of the larger cities of the State, the Hospital Board Dental Clinics are responsible for public dental services to school children.

Each school dentist is allotted an area and is required to work systematically through the schools in that area. With the present staff, it is impossible to visit the schools as often as considered desirable, but despite this, dentists on the staff have given good services to many country children.

Out of 41,975 children dentally inspected at schools, 26,889 were treated. It will be noted in Table LXXXIV that only 2,954 children inspected had naturally sound mouths. This means that only 7 per cent. of children examined were caries free. The percentage of children suffering from dental caries was 93. Two of the reasons for this high incidence of dental caries can be seen in a further study of the report.

The total number of children under regular dental care was 18,992. Less than half the children examined do not have regular dental care. Further, the number of children who themselves take care of their teeth by using a tooth brush regularly and effectively was 12,729 or only 30 per cent. of the total examined. While the lack of dentists, both school and private, in some areas is the cause of the absence of regular dental attention, there are many instances in which parents fail to avail themselves of the services available.

Those dental authorities who hail fluoridation as a great help in the reduction of dental caries emphasise the need for continuing dental care, both by the dentist and the patient.

The above analysis of what is found to-day in Queensland school children emphasises the need for further dental health education both to parents and school children. There must be no slackening on the part of children or parents should fluoridation be introduced in this country.

In Brisbane, in the absence of inspection by dentists, children found to have defective teeth during routine medical examinations are referred for dental attention to their own dentists, either privately to practitioners or to dental hospitals. During the year, 690 children were referred in this manner.

LXXXIII.

Table of Findings—School Health Services —1952-53.

Number of visits paid to Schools on Medical Inspection by School Sisters—

Metropolitan	62
Country	685

Number of children examined by School Sisters—

Metropolitan	22,153
Country	58,795

Number of children whose parents were notified of child's defect—

Metropolitan	996
Country	2,896

Number of children known to have been treated by medical practitioners—

Metropolitan	613
Country	1,715

Number of homes visited by School Sisters—

Metropolitan	6
Country	332

Number of parents interviewed at schools by School Sisters—

Metropolitan	34
Country	152

Defect.	Metropolitan.	Country.	Total.
Defective Vision ..	376	949	1,325
Strabismus	47	87	134
Other Eye Defects ..	23	50	73
Deafness	25	89	114
Ear Discharge ..	5	22	27
Nasal Defects ..	42	364	406
Tonsils	247	1,216	1,463
Scabies	3	30	33
Impetigo	51	358	409
Other Skin Defects ..	4	132	136
Pediculosis	403	299	702
Groin Swelling ..	44	86	130
Scrotum Swelling ..	26	29	55
Spinal Defects ..	10	38	48
Other Defects ..	215	354	569
Teeth..	690	..	690

Number of cleanliness visits made by School Sisters to schools—

Metropolitan	21
Country	35

Number of children examined—cleanliness visits by School Sisters—

Metropolitan	3,065
Country	3,921

Defects found on special cleanliness visits by Metropolitan and Country School Sisters—

Defect.	Metropolitan.	Country.	Total.
Pediculosis	246	88	334
Impetigo	7	24	31
Scabies	1	11	12
Other Skin Defects ..	1	22	23

Number of cases of Diphtheria in School Children—

Metropolitan	23
Country	68

Number of cases of Scarlet Fever in School Children—

Metropolitan	156
Country	50

Number of cases of Poliomyelitis in School Children—

Metropolitan	20
Country	75

Number of cases of Cerebro-spinal Meningitis in School Children—

Metropolitan	2
Country	4

Number of cases of Tetanus in School Children—

Metropolitan	3
Country	5

Number of cases of Malaria in School Children—

Metropolitan	..
Country	5

Number of cases of Tuberculosis in School Children—

Metropolitan	4
Country	22

Number of cases of Typhoid Fever in school children—

Metropolitan	1
Country	2

Number of cases of Lead Poisoning in School Children—

Metropolitan	1
Country	4

SCHOOL DENTAL SERVICE.

INSPECTION.

Table LXXXIV. gives results of examin ations carried out by dental officers during the year:—

TABLE LXXXIV.

Number of Children Examined.	Number Notified for Professional Attention.	Number of Children under Regular Dental Care.			Number with Sound Mouths.		Carious Teeth Saveable (Permanent).	Carious Teeth Unsaveable (Permanent).	Temporary Carious Teeth.	Permanent Teeth Lost or Extracted.	Six-year Molars Extracted.
		Clinic.	School Dental Officer.	Private Dentist.	Natural.	Operatively Restored.					
41,975	14,951	3,563	7,429	8,000	2,954	7,829	49,147	6,162	60,316	16,754	13,689

TABLE LXXXIV.—*continued.*

Permanent Teeth Filled.	Temporary Teeth Filled.	State of Mouth.			Use of Tooth Brush.			Percentage of Children with Dirty Mouths.	Total Number of Defective Permanent Teeth.	Average Number of Defective Permanent Teeth per Child.
		A.†	B.†	C.†	*A.	*B.	*C.			
70,206	15,072	11,645	25,365	4,965	12,729	20,594	8,652	11	55,309	1·03

State of Mouth—
A†—Good Standard of Mouth Health.
B†—Poor Standard of Mouth Health.
C†—Bad Standard of Mouth Health.

Use of Tooth Brush—
* A—With a full measure of effectiveness.
* B—With a partial measure of effectiveness.
* C—With no effectiveness.

CLINICAL PHASE OF SYSTEM.

Table LXXXV. summarises the particulars of treatment carried out during the year. The summary does not include the treatment performed throughout the State by Hospital Board Dental Clinics for children referred by the School Dental Service.

TABLE LXXXV.

TOTAL TREATMENT FOR YEAR.

Number of Children Treated.	Number of Extractions Performed.	Number of Fillings Inserted.	Number of Other Treatments.
26,889	38,010	67,361	41,107

TABLE LXXXVI.

TREATMENT FOR CORRESPONDENCE PUPILS.

Number of Children Treated.	Number of Extractions Performed.	Number of Fillings Inserted.	Number of Other Treatments.
52	47	101	79

DIVISION OF MENTAL HYGIENE.

Director of Mental Hygiene: B. F. R. Stafford, M.B., B.S. (Melb.).

The past fiscal year has been notable for the increasing difficulties associated with growing mental hospital populations. It became impracticable to proceed with the construction of a special "Eventide" home for the many aged patients whose mental infirmity arose solely through senility.

The problem of mental enfeeblement amongst the aged is causing concern in all civilized countries. If circumstances develop that would make the establishment of "Eventide," Wacol, possible, every effort should be directed towards this goal. The practicability of such a special institution has been demonstrated by the success of the Jubilee Hospital at Dalby. In this institution, some 60 aged ladies are receiving nursing care and attention.

A very important advance during the year was the announcement of the Government's intention to pursue active treatment appropriate to each patient as far as it was reasonable to do so. It was realized that traditional custodial care could militate against efficient therapy if all considerations were sacrificed to complete custody.

The criminal mentally sick have now been transferred to a special security ward at the Ipswich Mental Hospital where efficient custody must be the essential element of their care.

Special security wards have been organised at the Brisbane Mental Hospital to care for the mentally sick who are subject to episodes of difficult, and at times, dangerous behaviour.

This classification has meant that many patients can now be treated in a manner that will enable them to practice and achieve social rehabilitation. Social rehabilitation is the practical test of recovery, and if obtained, is of greater importance than some more or less theoretical standard of psychological adjustment.

The problem of female nursing staff shortages has not appreciably lessened. In one respect difficulties have been increased. In all the hospitals, there has been a persistent loss of trained and experienced nurses. There have been occasions when, numerically, the female staff has almost reached the establishment, but new recruits cannot at once replace experienced officers. A greatly increased load of responsibility has therefore fallen on the senior staff and on the more efficient of the junior staff. The services of these officers have enabled active treatments to continue and even expand.

In order to improve nursing efficiency and to promote greater interest amongst the nurses, the hospital ward and two geriatric wards at the Brisbane Mental Hospital have been approved as a training school for general nursing. The facilities were carefully examined by the Nurses and Masseurs Registration Board, and through the co-operation of the Brisbane and South Coast Hospitals Board, a complete training curriculum is possible.

The scheme is still in the organising stage. A tutor Sister will be appointed. This officer is a very important person in the training scheme. Every effort is being made to secure the right officer. Approval has been given to remodel a residence to provide facilities for a training centre.

It is expected that as soon as this building is ready invalid cookery classes will commence.

Approval was given for the appointment of qualified Occupational Therapists at Toowoomba and Brisbane Mental Hospitals. These activities have greatly expanded and now constitute a special division of the Hospitals' activities.

An overall survey of patients in Mental Hospitals as at 30th June, 1953, is shown in appended statistical tables. Important trends shown in these tables are:—

TABLE LXXXVII.

—	1951–52.	1952–53.	Increase or Decrease.
1. No. of patients admitted	1,002	1,138	+136
2. No. of patients discharged	630	642	+ 12
3. No. admitted suffering from senility	222	306	+ 84
4. No. admitted suffering from mental deficiency	125	86	− 39

BRISBANE MENTAL HOSPITAL.

Medical Superintendent: C. R. Boyce, M.B. (Syd.).

During the financial year 1952-53, a total of 932 patients were admitted and the daily average of patients was 2,403. Over the past years, these totals have been increasing, and in consequence, accommodation, services and staff are overtaxed. In such a large hospital, the need for efficient classification can be readily demonstrated. By this is meant not so much a satisfactory grouping of patients as the establishment of special institutions and special services.

Accommodation can be relieved by more buildings and more beds. It is solved by the provision of special care and special treatment for particular classes. For example, the numbers of patients in this hospital warrant specific establishments to cater for—

(1) Intermediate or voluntary patients;
(2) Backward persons;
(3) Senile patients.

The number of senile cases admitted to this hospital is increasing at an alarming rate. Of the 932 admissions, 285 were suffering from senility.

Patients admitted, over the age of 70 years on admission, have increased in numbers from 105 in 1946 to 207 in 1953. In 1943, there were 199 patients over 70 years of age resident in the hospital, whereas in 1953, there were 365.

If special accommodation were provided for these aged persons, it would be necessary to provide immediately 500 beds and plan to increase this to 1,000 beds in order to relieve the other hospitals, Eventide Institutions and provide for population growth.

Visits by benevolent bodies, such as the Amberley R.A.A.F. Concert Party, C.W.A., Relatives and Friends Association, Monty Bloom and party, Mrs. Kelly, Mrs. Bestman, Mr. Noel Hall, Mr. Noel Harvey and Sunday afternoon Band Concerts by the Salvation Army have given diversion and amusement, while the singing class under the tutelage of Mrs. Bestman and her friends has given several concerts.

R.S.S.A.I.L.A. and the Department of Repatriation have provided many comforts, luxuries and outings.

The spiritual side of life has been well catered for by representatives of the various religious denominations.

A new Occupational Therapy Centre has been constructed for female patients and this has released a suitable building to accommodate in comparative isolation and freedom some 15 to 20 voluntary and self-reliant patients.

The main Occupational Therapy Centre continues to expand and has now branched out into the intricacies of clay modelling, baking and glazing. The new electric kiln is installed and operating.

Handicrafts and woodwork are being satisfactorily taught to patients at Wacol Repatriation Pavilion by officers from this hospital, and handicrafts are being taught to newly admitted female patients in Ward 7.

Physical culture classes continue to produce satisfactory results, and patients, both male and female, are enthusiastic in this form of treatment.

Progress continues to be made with the female cafeteria and sports ground. Bowling greens have had the grass planted and other playing areas are proceeding.

The Farm Bailiff has methodically increased his herd as it is anticipated that with the operation of the farm irrigation project, the installation of mechanical milking, the procuring of up-to-date farm machinery, and the systematic brushing of potential grazing areas, will enable the enlarged herd to be fed and handled.

The boys' ward has been greatly improved; their kitchen modernised and dining-room and dormitory painted. Appropriate pictures for them are in process of framing.

The work of Dr. B. Burton-Bradley in conducting an investigation of the treatment of Epilepsy with a special drug known as "Mysoline" and Dr. W. Leggat's research on phenylpyruvic oligophrenia is appreciated.

A review of the past year shows that much has been done to improve the living conditions of the patients and the working conditions of the staff, and every confidence is felt that the coming year holds still better things in store.

WACOL REPATRIATION PAVILION.

The innovation two years ago of an Anzac Day ceremony at the Pavilion has fulfilled expectations by continuing to expand and develop. The ceremony this year was opened by a splendidly uniformed band from Ipswich marching from the Mental Hospital to the Pavilion. Many visitors attended. Afterwards, a dinner was provided, at which all available ex-servicemen from the Hospital at Goodna, attended.

Officers of the Department of Repatriation regularly inspect the Pavilion and interview patients.

Recreation and diversion is supplied by the Repatriation Department, the R.S.S.A.I.L.A. and the Red Cross. Motor excursions, concerts and moving pictures are frequent, whilst many patients attend Mental Hospital recreational amusements.

Teachers from the Mental Hospital instruct twice weekly in wood work and in handicrafts and patients are encouraged to attend the Occupational Therapy Centres on the other three days per week.

Excellent progress has been made with the sports oval and whereas at the beginning it was impossible to get more than two or three voluntary workers, as many as twenty-two are now employed.

The new road from Wacol Station is completed, and in anticipation of a shuttle 'bus service, the top gate on the Hospital side is now in use.

TOOWOOMBA MENTAL HOSPITAL.

Medical Superintendent:

J. H. B. HENDERSON, M.B., B.S. (Syd.).

Admission figures for the year have advanced considerably, and the total of 167 exceeds the total of last year by 28. Once again it is pleasing to see the high proportion of voluntary admissions and one feels that the traditional stigma and fear of Mental Hospitals is gradually being overcome.

The acquisition of a portable X-ray unit from the Brisbane Mental Hospital has been of great value and assistance in treating our physically sick.

With insulin coma and other forms of therapy, our recovery rate for the year has been very favourable. Also the death rate has been comparatively low.

The usual forms of recreation are being provided, the patients who, following the construction of satisfactory ping pong and bobs tables, are having more nocturnal enjoyment.

Improvements in the wards, such as rotary clothes lines, clothes storage and hanging cupboards, beside lockers, &c., are being continually increased, whilst beautification of the grounds has not been forgotten.

A group of approximately one hundred Athel trees has been planted near the stock yard.

A number of dining rooms and sculleries have been painted whilst external painting is being carried out by the Public Works Department.

The staff have been most co-operative and, with rare exceptions, understanding and courteous towards patients, relatives and visitors. It is to them chiefly that we must attribute the generally favourable feeling which the public has developed towards this institution.

During the year, 31 elderly patients were discharged to the Jubilee Home, Dalby, where they have been received very favourably. A number of these patients were transferees from the Brisbane Mental Hospital, and it is a pleasure to know that they are there receiving all the possible benefits to which the elderly are due.

IPSWICH MENTAL HOSPITAL.

Medical Superintendent: W. P. H. Parker, L.R. C.P. & S. (Ireland).

The general health of the patients has been satisfactory.

The patients have been entertained regularly with dances, talking pictures and band concerts by local bandsmen. The local Country Women's Association visited the hospital at Christmas time and distributed fruit, cakes, ice-cream, sweets and presents. In addition, ice-cream is supplied regularly each month and concerts are arranged at various times through the year. Miss Hinton visited the hospital at Christmas time and dispensed further Christmas cheer as in previous years. "The Courier-Mail" Toy Fund once again provided toys for the children. Daily newspapers and a variety of periodicals and magazines, together with occasional donations of reading matter, are provided to the various wards. Picnics to Sandgate were arranged for male and female patients.

The Sandy Gallop Sub-branch of the R.S.S.A.I.L.A. once again has provided hospitality to the Returned Soldier patients with regular fortnightly visits to a local picture theatre.

The religious interests of the patients were catered for by regular visits and services conducted by the clergy of the various denominations. No magisterial inquiries were held during the year. The patients were attended regularly by the dentist, optometrist, and chiropodist appointed to visit the hospital.

During the year, the installation of a vegetable steamer and food mixing machine in the general kitchen, a refrigerator in Female Ward 1, a P.A.B.X. telephone system throughout the hospital and ventilation of the recreation hall were effected.

The Public Works completed a new laundryette, a storeroom and infants' dormitory in Female Ward 4 and provided a new recreational room with facilities in Male Ward 2, in addition to major repairs to the matron's quarters, the dormitory floor Male Ward 1 and the roof of the administration block.

For some time, children have been admitted directly to the Ipswich Mental Hospital. Owing to the care and attention these little patients receive at the hospital, their expectation of life has increased. The older boys have completely dispossessed made adults from one ward, and older boys again have been transferred to the Brisbane Mental Hospital, and a number have fully occupied a dormitory in another ward at Ipswich.

The older female children have completely dispossessed the adults from a female ward at Ipswich.

Additional accommodation is an urgent need. As far as these children are concerned, it can be best met by adding extra bed space to wards, should new buildings be impracticable.

During the year additional space was made for infants in the original children's ward. This will provide some relief for the babies.

CHARTERS TOWERS MENTAL HOSPITAL.

This project has progressed to the extent that it is now probable that two ward buildings will be ready for occupation by the end of 1953.

In order to give a satisfactory service to the northern region and make an appreciable impression on the accommodation problem, it will be necessary to press forward with the 500 bed plan.

Plans are in hand to staff the hospital with some experienced officers, and the remainder selected from local residents.

Beautification of the grounds is proceeding. The policy that has been followed of grounds development from the commencement of construction has meant several years invaluable growth of trees and shrubs before patient occupation.

The hospital environs will without doubt be a scenic asset for the district.

EPILEPTIC HOME.

Superintendent: E. G. Kenyon.

There was a total of 105 patients under treatment at the Home during the year, comprising 45 males and 60 females. Of this number, there were 4 males and 5 females under 15 years of age.

Three patients died—2 males and 1 female. Five patients were admitted, 1 male and 4 females. One male was discharged to the Toowoomba Mental Hospital.

As far as possible, a record of epileptic fits is kept. Figures for the various groups during the year are as follows:—

	Male.	Female.
Grand Mal	1,189	1,637
Petit Mal	837	3,258
	2,026	4,895

Grand total .. .. 6,921.

The Epileptic Home continues to play an important part in the Charitable Institutions scheme of Government policy. The supervision and care of epileptics is also important and requires patience, tolerance and a temperament specially suited for that type of nursing.

Epileptics can be most difficult people. They can recover quickly from a seizure or go into a series of fits and require constant attention and care. They can suffer injury and exhibit violence. There are many difficulties and anxieties expected with such a wide variety of mentality, age and physical capacity in the patients. The individual varies a great deal and there is need for special watchfulness. Some patients are enthusiastic in their duties while others are laggards, and have to be carefully persuaded to carry out a task.

Inmates at present could be classified as follows:—

(*a*) A few bright children.

(*b*) A number of less intelligent, handicapped physically.

(*c*) Medium and low grade adolescents, capable of a varying degree of employment.

(*d*) Medium aged adults of varying mentality and suitably employed.

(*e*) Aged and infirm.

(*f*) Low grade mentalities, incapable of employment.

Statistics show that the majority of patients remain in the Home indefinitely.

Several applications were rejected during the year because of unsuitability. An endeavour is being made to admit patients whose mentality is such that they can be usefully employed and capable of looking after themselves. Very often an application is received which does not state fully the type of patient and it is very difficult to decide suitability or otherwise. While the Home is for epileptics, a certain standard of mentality is required before admission.

During the year, two female patients were discharged so that they could take a course of vocational training at the Rehabilitation Centre at Perry Park, Brisbane. This was in the form of an experiment. One succeeded and is now employed and earning her own livelihood; the other, because of continued epilepsy, after nine months at the centre, had to return to the Home. The latter patient was taking a course of typing and general office work.

Outside of farming, gardening, domestic and laundry work, there is little other occupational therapy being carried on, mainly because the suitable type of patient is not resident. This can be seen from the classification of patients referred to above. Many inmates are good needleworkers and in their time do excellent fancy, crochet and knitting work.

The general health of patients has been good during the year. Changes in the menu have helped to satisfy the gastronomic delights of patients. New dentures have been provided for the majority of patients.

The teacher in charge of the school, Miss Dorothy King, still renders valuable service, and after thirteen years is still keen and devoted to this very important work of endeavouring to educate the mentally sick.

On the roll at the end of June were 27 pupils —12 boys and 15 girls. Ten of these children came from the Toowoomba Mental Hospital. Average attendance for the year was 23, showing the general happy health of these little folk in their own surroundings, which, in some instances, will embrace the greater part of their lives. Their keenness to come to school is evidenced by the manner in which they enter into all activities and projects with most personal appeal.

With some of the children, little formal grade work is done, much time being spent in studying and eliciting the interests, abilities and needs of these unstable little folk. While the mental ages extend from nursery, through infant, to junior primary (with minor exceptions), the main object of the school is for the child to live and develop as fully as possible and to provide the conditions whereby this development of the individual could be fully brought about.

The existence of the school is not widely known, nor is the good work it is performing. The school could be the nucleus of a hostel-school whereby backward and epileptic children could be brought from the west and other centres on the Darling Downs for education and treatment. There must be a good many children afflicted with epilepsy, who could benefit by having the advantage of these mediums of development and expression, comparable to their standard of sick mentality, and who may otherwise be deprived of such opportunities, thereby relieving strain on parents and other members of the family.

Supplies of farm produce continue to meet the needs of the Home. A gardener has been appointed to take charge of this section, and it is hoped that increased production will result and any surplus distributed to the various institutions in Toowoomba.

Leave has been enjoyed by many patients during the year. All returned quite happy and ready to settle down again among the friends they have made since their admission. Most patients visited the Show. A day out shopping in the city is often availed of by suitable patients. Several 'bus outings were provided during the year; one notable trip was to Brisbane, Sandgate and Redcliffe. This was in the nature of an experiment; thirty-five patients were selected for the outing, and after an enjoyable day, returned home tired but happy.

The Toowoomba Fire Brigade Board made a report on existing fire fighting appliances at the Home. Certain recommendations have been made, and it is hoped to have these put into operation in the near future.

During the year, patients have been entertained by regular dances and pictures, band concerts and variety shows. These were very much appreciated by all. Religious services were held by the various denominations every Sunday.

PSYCHIATRIC CLINIC.

The most notable event, as far as this Clinic is concerned, was the outfitting and equipping of the play room. As a result, the Clinic has been able to provide an appropriate and effective therapeutic, as well as diagnostic, medium for the readjustment of children with behaviour problems and personality difficulties.

Play therapy, conducted by a trained therapist, in conjunction with counselling of parents, is now a regular procedure within the Clinic and is proving a most productive form of treatment.

Preparations have been made to provide craft work activity as an accompaniment to counselling for adolescent children who are too mature to derive full benefit from play therapy.

On the psychiatric and psychological side, increases in the numbers of patients handled were fairly general throughout the various categories, and especially heavy among psychoses.

The speech therapy section continues to attract more patients and a large waiting list has developed. From the viewpoint of a psychiatric clinic, the cases considered suitable for treatment are those whose speech difficulties arise from psychological and/or organic causes. Patients just needing speech training, or whose disability is due to marked backwardness have to be passed over. The greatest increase in patients has occurred in the numbers of dyslalic and partially deaf children presenting for treatment. The partially deaf child is in fact a very special problem. His physical disability is frequently unnoticed until he attends the Clinic suffering from tension or anxiety state, gendered by the difficult competition with normal hearing children.

All sections of the Clinic have waiting lists and it is hoped that extra psychiatric sessions may be possible during the next year.

TABLE LXXXVIII.

QUEENSLAND MENTAL HOSPITALS.

Showing Admissions, Readmissions, Discharges and Deaths, during the Year ended 30th June, 1953.

—	Brisbane Mental Hospital.						Toowoomba Mental Hospital.						Ipswich Mental Hospital.						Totals.					
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
On the Books of the Hospitals on 1st July, 1952	..	..	..	**1,224**	**1,266**	**2,490**	..	..	..	**626**	**616**	**1,242**	..	..	..	**352**	**193**	**545**	..	..	..	**2,202**	**2,075**	**4,277**
Admitted for the first time	370	372	742				60	68	128				18	19	37				448	459	907			
Readmitted..	73	117	190	443	489	932	23	16	39	83	84	167	1	1	2	19	20	39	97	134	231	545	593	1,138
Totals All Hospitals																						**2,747**	**2,668**	**5,415**
Transferred from Brisbane	..	..	..				10	53	63				45	5	50									
Transferred from Toowoomba	4	4	8				..	..	..				..	..	..									
Transferred from Ipswich..	33	1	34	37	5	42	..	..	..	10	53	63	..	..	..	45	5	50						
***Total number under care during the year** ..				**1,704**	**1,760**	**3,464**				**719**	**753**	**1,472**				**416**	**218**	**634**						
Discharged—																								
Recovered	177	199	376				24	33	57				3	1	4				204	233	437			
Section 49	21	29	50				5	1	6				..	..	..				26	30	56			
Relieved	8	5	13				23	49	72				2	3	5				33	57	90			
Not Improved	1	4	5				6	6	12				..	..	..				7	10	17			
Voluntarily left	20	13	33				..	..	..				..	..	..				20	13	33			
Died	134	112	246				27	30	57				20	10	30				181	152	333			
Total Number Discharged and Died				**361**	**362**	**723**				**85**	**119**	**204**				**25**	**14**	**39**				**471**	**495**	**966**
Transferred to Brisbane	..	..	..				4	4	8				33	1	34									
Transferred to Toowoomba	10	53	63				..	..	..				..	..	..									
Transferred to Ipswich	45	5	50	55	58	113	..	..	..	4	4	8	..	..	..	33	1	34						
Total number discharged, died, &c., during year				416	420	836				89	123	212				58	15	73						
Remaining on Books of Hospitals on 30th June, 1953				**1,288**	**1,340**	**2,628**				**630**	**630**	**1,260**				**358**	**203**	**561**				**2,276**	**2,173**	**4,449**
Average Number Daily Resident				**1,203**	**1,200**	**2,403**				**619**	**597**	**1,216**				**346**	**193**	**539**				**2,168**	**1,990**	**4,158**
Number on leave of absence on 30th June, 1953				83	124	207				10	22	32				2	2	4				95	148	243
Proportion of Mentally Sick to each 1,000 of population as at 31st December, 1952							..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3·57	3·55	3·56
Proportion of Admission per 10,000 of population for year ended 31st December, 1952							..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8·57	9·69	9·12

* These totals include interhospital transfers.

TABLE LXXXIX.

Admissions, Discharges, and Deaths, with the Proportions of Recoveries and Deaths per cent during the Year ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Total Admissions	443	489	932	83	84	167	19	20	39	545	593	1,138
Discharged—												
Recovered	218	237	455	25	33	58	3	1	4	246	271	517
Relieved	8	9	17	24	50	74	2	3	5	34	62	96
Not Improved	1	4	5	9	6	15	..	..	..	10	10	20
Died	134	112	246	27	30	57	20	10	30	181	152	333
Average Number Daily Resident	1,203	1,200	2,403	619	597	1,216	346	193	539	2,168	1,990	4,158
Percentage of Recoveries on Admissions	49·21	48·47	48·82	30·12	39·29	34·73	15·79	5·00	10·26	45·14	39·97	45·43
Percentage of Patients Relieved on Admissions	1·80	1·84	1·82	28·91	59·52	44·31	10·53	15·00	12·82	6·24	9·12	7·73
Percentage of Deaths on Average Number Resident	11·14	9·33	10·24	4·36	5·03	4·69	5·78	5·17	5·57	8·35	7·64	8·01

TABLE XC.

Forms of Mental Disorders in Patients Admitted during the Twelve Months ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals
1. AFFECTIVE REACTION TYPES—												
(*a*) Manic Depressive Psychosis	30	44	74	10	16	26	..	..	..	40	60	100
(*b*) Acute Mania	2	..	2	..	2	2	..	..	..	2	2	4
Mania	12	8	20	..	..	..	..	..	..	12	8	20
(*c*) Agitated Depression ..	..	4	4	..	1	1	..	..	..	..	5	5
Depression	9	12	21	5	4	9	..	..	..	14	16	30
Reactive Depression ..	1	9	10	..	3	3	..	..	..	1	12	13
Recurrent Depression ..	1	1	2	..	1	1	..	..	..	1	2	3
Hypomania	3	1	4	..	..	..	..	..	..	3	1	4
(*d*) Involutional Depression ..	2	19	21	..	2	2	..	..	..	2	21	23
2. SCHIZOPHRENIC REACTION TYPE—												
(*a*) Schizoid Personality ..	..	..	..	..	1	1	..	..	..	..	1	1
Schizophrenia	132	149	281	19	17	36	1	..	1	152	166	318
Schizophrenia Depression..	1	..	1	..	..	..	..	..	..	1	..	1
(*b*) Paraphrenia	28	42	70	..	1	1	1	..	1	29	43	72
Catatonia	..	1	1	..	..	..	..	..	..	..	1	1
Paranoia	4	3	7	..	..	..	..	..	..	4	3	7
(*c*) Paranoid Reaction.. ..	..	..	..	1	..	1	..	..	..	1	..	1
3. ORGANIC REACTION TYPES—												
(*a*) Organic Dementia ..	2	..	2	..	..	..	..	..	..	2	..	2
Organic Dementia (Huntington's Chorea)	1	1	2	..	..	..	..	..	..	1	1	2
Organic Psychosis	1	4	5	..	..	..	..	..	..	1	4	5
(*b*) Toxins—												
Alcoholic Acute Hallucinosis	10	1	11	6	..	6	..	..	..	16	1	17
Alcoholic Psychosis ..	3	..	3	5	1	6	..	..	..	8	1	9
Alcoholic Psychosis (Korsakov's)	6	1	7	..	..	..	..	..	..	6	1	7
Confusional Psychosis ..	..	..	..	..	2	2	..	..	..	..	2	2
Dementia Paralytica ..	4	..	4	..	..	..	..	..	..	4	..	4
(*c*) Arteriosclerotic Dementia..	10	11	21	..	1	1	..	..	..	10	12	22
Arteriosclerotic Psychosis..	9	11	20	3	..	3	..	..	..	12	11	23
Disseminated Sclerosis ..	..	1	1	..	..	..	..	..	..	..	1	1
Presenile Dementia ..	1	2	3	..	..	..	..	..	..	1	2	3
Presenile Psychosis ..	3	2	5	..	..	..	..	..	..	3	2	5
Senile Dementia	86	99	185	4	3	7	3	..	3	93	102	195
Senile Psychosis	24	26	50	5	8	13	..	..	..	29	34	63
4. EPILEPTIC REACTION TYPES—												
Epileptic Psychosis ..	9	6	15	..	1	1	..	..	..	9	7	16
Epilepsy	..	..	..	2	..	2	..	..	..	2	..	2
6. PSYCHONEUROTIC REACTION TYPES—												
Psychoneurosis	5	4	9	2	11	13	..	..	..	7	15	22
Psychoneurotic Anxiety State	2	3	5	4	..	4	..	..	..	6	3	9
Psychosexual Inversion ..	..	..	..	1	..	1	..	..	..	1	..	1
6. MENTAL DEFICIENCY—												
(*a*) Mental Deficiency	17	17	34	..	..	..	2	4	6	19	21	40
Mental Deficiency—Congenital Syphilis	..	..	..	..	2	2	..	..	..	..	2	2
Mental Deficiency (Mongol)	..	..	..	..	..	..	2	7	9	2	7	9
Mental Deficiency (Moron)	..	..	..	1	2	3	..	..	..	1	2	3
Mental Deficiency (with Epilepsy)	..	1	1	3	2	5	..	2	2	3	5	8
Mental Deficiency (with Schizophrenia)	2	1	3	..	..	..	..	..	..	2	1	3
(*b*) Idiocy	..	..	..	2	..	2	1	..	1	3	..	3
(*c*) Imbecility	..	..	..	3	2	5	9	6	15	12	8	20
(*d*) Moral Deficiency	4	2	6	..	..	..	..	..	..	4	2	6
(*e*) Sub-normal	..	..	..	..	..	..	..	1	1	..	1	1
7. ADDICTION—												
Alcoholism	19	3	22	7	..	7	..	..	..	26	3	29
Morphine	..	..	..	..	1	1	..	..	..	..	1	1
Totals	443	489	932	83	84	167	19	20	39	545	593	1,138

TABLE XCI.

Causes of Deaths which occurred during period ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
GENERAL DISEASES—												
Carcinoma of Breast ..	..	1	1	..	3	3	..	..	..	..	4	4
Chronic Alcoholism	1	..	1	..	..	..	..	..	..	1	..	1
Diabetes	..	..	..	1	..	1	..	..	..	1	..	1
Exhaustion	..	3	3	..	1	1	..	..	..	..	4	4
Found Drowned	1	..	1	..	..	..	..	..	..	1	..	1
Gangrene of Leg	..	..	..	..	1	1	..	..	..	..	1	1
Ludwig's Angina	1	..	1	..	..	..	..	..	..	1	..	1
Malnutrition	..	..	..	..	..	..	..	1	1	..	1	1
Multiple Epithelioma ..	..	..	..	..	1	1	..	..	..	..	1	1
Strangulated Inguinal Hernia	..	..	..	2	..	2	..	..	..	2	..	2
DISEASES OF NERVOUS SYSTEM—												
Alheimers Disease	..	1	1	..	..	..	..	..	..	..	1	1
Cerebellar Haemorrhage ..	..	..	..	1	..	1	..	..	..	1	..	1
Cerebral Arteriosclerosis ..	2	1	3	..	..	..	..	..	..	2	1	3
Cerebral Degeneration ..	3	2	5	3	1	4	..	..	..	6	3	9
Cerebral Haemorrhage ..	4	3	7	..	1	1	2	..	2	6	4	10
Cerebral Thrombosis ..	4	4	8	..	..	..	..	..	..	4	4	8
Cerebral Tumour	1	..	1	..	..	..	..	..	..	1	..	1
Encephalitis	..	..	..	..	..	..	..	1	1	..	1	1
Huntington's Chorea ..	..	1	1	..	..	..	..	..	..	..	1	1
Meningitis	..	..	..	..	..	..	1	..	1	1	..	1
Senility	8	4	12	..	..	..	..	..	..	8	4	12
Subdural Haematoma ..	..	..	..	..	1	1	..	..	..	..	1	1
DISEASES OF CIRCULATORY SYSTEM—												
Arteriosclerosis	6	1	7	..	..	..	..	..	..	6	1	7
Cardio Vascular Degeneration	46	38	84	..	..	..	1	..	1	47	38	85
Congenital Heart Disease ..	..	..	..	..	..	..	1	1	2	1	1	2
Congestive Cardiac Failure..	17	6	23	..	..	..	1	1	2	18	7	25
Coronary Occlusion	..	..	..	2	4	6	1	1	2	3	5	8
Coronary Thrombosis ..	13	8	21	..	..	..	2	..	2	15	8	23
Left Ventricular Failure ..	6	4	10	..	..	..	..	..	..	6	4	10
Myocardial Degeneration ..	1	10	11	11	6	17	..	..	..	12	16	28
Myocarditis	..	..	..	..	..	..	3	1	4	3	1	4
DISEASES OF RESPIRATORY SYSTEM—												
Hypostatic Pneumonia ..	2	..	2	..	..	..	2	..	2	4	..	4
Broncho Pneumonia ..	7	9	16	3	4	7	2	1	3	12	14	26
Lobar Pneumonia	1	..	1	..	3	3	..	..	..	1	3	4
Pneumonia	2	6	8	..	..	..	..	..	..	2	6	8
Pulmonary Oedema ..	1	1	2	..	..	..	1	..	1	2	1	3
Pulmonary Tuberculosis ..	4	2	6	1	1	2	..	..	..	5	3	8
DISEASES OF ALIMENTARY SYSTEM—												
Carcinoma of Colon ..	..	2	2	..	1	1	..	..	..	..	3	3
Carcinoma of Pancreas ..	..	..	..	..	..	..	1	..	1	1	..	1
Carcinoma of Gall Bladder ..	..	..	..	1	..	1	..	..	..	1	..	1
Carcinoma of Stomach ..	1	..	1	1	1	2	..	..	..	2	1	3
Carcinoma of Rectum ..	1	..	1	..	..	..	..	..	..	1	..	1
Dysentery	..	..	..	..	1	1	..	..	..	..	1	1
Malignant Disease of Stomach	..	..	..	..	..	..	1	..	1	1	..	1
Gastro-Enteritis	..	1	1	..	..	..	1	3	4	1	4	5
Prolapsed Rectum	..	1	1	..	..	..	..	..	..	..	1	1
DISEASES OF GENITO-URINARY SYSTEM—												
Chronic Cystitis	..	..	..	1	..	1	..	..	..	1	..	1
Enlarged Prostrate	1	..	1	..	..	..	..	..	..	1	..	1
Malignant Ovarian Tumour	..	1	1	..	..	..	..	..	..	..	1	1
Uraemia	..	2	2	..	..	..	..	..	..	..	2	2
Totals	134	112	246	27	30	57	20	10	30	181	152	333

TABLE XCII.

Bodily Health and Condition of Patients Admitted during the Year ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
In apparently good health and condition	268	270	538	64	54	118	18	14	32	350	338	788
In indifferent health and reduced condition	108	117	225	16	24	40	1	6	7	125	147	272
In bad health and exhausted condition	67	102	169	3	6	9	..	..	..	70	108	178
Totals	443	489	932	83	84	167	19	20	39	545	593	1,138

TABLE XCIII.

Birth Places of Patients Admitted During Period ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Queensland	244	327	571	55	63	118	16	19	35	315	409	724
New South Wales	40	46	86	8	14	22	1	1	2	49	61	110
Victoria	11	14	25	1	1	2	1	..	1	13	15	28
South Australia	2	1	3	2	..	2	..	..	..	4	1	5
Western Australia	4	2	6	..	..	..	..	..	..	4	2	6
Tasmania	5	3	8	..	1	1	..	..	..	5	4	9
West Indies	..	1	1	..	..	..	..	..	..	..	1	1
New Zealand	4	2	6	1	..	1	..	..	..	5	2	7
Albania	1	..	1	..	..	..	..	..	..	1	..	1
Indonesia	1	..	1	..	..	..	..	..	..	1	..	1
England	58	41	99	1	2	3	..	..	..	59	43	102
Scotland	14	16	30	2	1	3	..	..	..	16	17	33
Ireland	11	9	20	2	..	2	..	..	..	13	9	22
Wales	3	1	4	..	..	..	..	..	..	3	1	4
Malta	1	1	2	1	..	1	..	..	..	2	1	3
Cyprus	2	2	4	..	..	..	..	..	..	2	2	4
Latvia	..	1	1	..	..	..	..	..	..	..	1	1
China	1	1	2	..	..	..	..	..	..	1	1	2
Denmark	3	..	3	1	..	1	..	..	..	4	..	4
Finland	1	..	1	..	..	..	..	..	..	1	..	1
France	..	..	..	1	..	1	..	..	..	1	..	1
Germany	1	3	4	3	..	3	..	..	..	4	3	7
Greece	1	..	1	..	..	..	..	..	..	1	..	1
Italy	9	5	14	1	..	1	..	..	..	10	5	15
Holland	2	..	2	..	..	..	..	..	..	2	..	2
Poland	9	1	10	..	..	..	..	..	..	9	1	10
Roumania	2	..	2	..	..	..	..	..	..	2	..	2
Russia	..	4	4	..	..	..	..	..	..	..	4	4
Sicily	..	1	1	..	..	..	..	..	..	..	1	1
Suez	..	..	..	..	..	..	1	..	1	1	..	1
Sweden	..	1	1	..	..	..	..	..	..	..	1	1
United States of America ..	1	..	1	..	..	..	..	..	..	1	..	1
Yugoslavia	4	2	6	..	..	..	..	..	..	4	2	6
Unknown	8	4	12	4	2	6	..	..	..	12	6	18
Totals	443	489	932	83	84	167	19	20	39	545	593	1,138

TABLE XCIV.

Districts whence Patients were Received during the Year ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Northern and North-Western..	67	34	101	1	..	1	2	2	4	70	36	106
Central	30	27	57	..	..	..	4	..	4	34	27	61
Southern and South-Western..	346	428	774	82	84	166	13	18	31	441	530	971
Totals	443	489	932	83	84	167	19	20	39	545	593	1,138

TABLE XCV.

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES, OR DEATHS OCCURRED DURING THE YEAR, AND THOSE WHO REMAINED IN THE HOSPITAL ON 30TH JUNE, 1953.

Age Group.	Admissions.			Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved and not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
Under 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1
10 years and under 15 years	4	1	5	..	..	..	..	..	..	..	..	..	9	1	10
15 years and under 20 years	8	14	22	5	9	14	..	..	..	1	..	1	26	15	41
20 years and under 30 years	77	62	139	50	34	84	2	3	5	1	3	4	159	116	275
30 years and under 40 years	80	98	178	52	62	114	2	1	3	4	5	9	252	227	479
40 years and under 50 years	60	75	135	46	49	95	3	2	5	5	10	15	246	282	528
50 years and under 60 years	53	70	123	29	40	69	1	2	3	11	10	21	250	298	548
60 years and under 70 years	61	59	120	24	29	53	..	3	3	32	17	49	187	187	374
70 years and under 80 years	59	64	123	8	9	17	..	2	2	43	35	78	112	136	248
80 years and under 90 years	35	40	75	4	5	9	1	..	1	30	27	57	36	68	104
90 years and over	4	5	9	..	..	..	..	..	..	7	5	12	3	10	13
Unknown	1	1	2	..	..	..	..	..	..	..	..	..	7	..	7
Totals, Brisbane Mental Hospital	**443**	**489**	**932**	**218**	**237**	**455**	**9**	**13**	**22**	**134**	**112**	**246**	**1,288**	**1,340**	**2,628**
TOOWOOMBA MENTAL HOSPITAL.															
Under 5 years	..	..	..	..	..	..	..	..	..	..	1	1	1	1	2
5 years and under 10 years	3	..	3	..	..	..	1	..	1	..	..	..	4	2	6
10 years and under 15 years	3	1	4	..	..	..	1	..	1	..	..	..	5	5	10
15 years and under 20 years	3	4	7	1	..	1	..	..	..	..	..	..	13	12	25
20 years and under 30 years	12	14	26	8	4	12	4	6	10	..	1	1	38	30	68
30 years and under 40 years	18	11	29	6	5	11	9	5	14	..	2	2	72	53	125
40 years and under 50 years	18	19	37	4	12	16	9	4	13	..	2	2	124	104	228
50 years and under 60 years	8	16	24	1	7	8	4	7	11	4	4	8	117	156	273
60 years and under 70 years	8	6	14	3	4	7	3	13	16	9	6	15	143	158	301
70 years and under 80 years	7	5	12	2	1	3	2	9	11	10	7	17	79	71	150
80 years and under 90 years	2	6	8	..	..	..	..	11	11	3	7	10	26	30	56
90 years and over	..	2	2	..	..	..	..	1	1	1	..	1	2	2	4
Unknown	1	..	1	..	..	..	..	..	..	..	..	..	6	6	12
Totals, Toowoomba Mental Hospital	**83**	**84**	**167**	**25**	**33**	**58**	**33**	**56**	**89**	**27**	**30**	**57**	**630**	**630**	**1,260**
IPSWICH MENTAL HOSPITAL.															
Under 5 years	7	11	18	..	..	..	1	1	2	3	5	8	10	18	28
5 years and under 10 years	5	4	9	..	..	..	..	1	1	..	1	1	28	21	49
10 years and under 15 years	2	4	6	..	..	..	1	..	1	..	1	1	36	19	55
15 years and under 20 years	..	1	1	..	..	..	..	..	..	..	..	..	10	21	31
20 years and under 30 years	1	..	1	..	..	..	..	..	..	..	..	..	12	11	23
30 years and under 40 years	2	..	2	2	..	2	..	..	..	..	..	..	16	25	41
40 years and under 50 years	..	..	..	..	..	..	..	1	1	..	..	..	54	20	74
50 years and under 60 years	..	..	..	1	..	1	..	..	..	3	..	3	78	25	103
60 years and under 70 years	1	..	1	..	1	1	..	..	..	6	..	6	68	25	93
70 years and under 80 years	1	..	1	..	..	..	..	..	..	6	3	9	32	14	46
80 years and under 90 years	..	..	..	..	..	..	..	..	..	2	..	2	11	4	15
90 years and over	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Totals, Ipswich Mental Hospital	**19**	**20**	**39**	**3**	**1**	**4**	**2**	**3**	**5**	**20**	**10**	**30**	**358**	**203**	**561**
Grand Totals all Hospitals	**545**	**593**	**1,138**	**246**	**271**	**517**	**44**	**72**	**116**	**181**	**152**	**333**	**2,276**	**2,173**	**4,449**

TABLE XCVI.

Occupations of Patients Admitted during the Year ended 30th June, 1953.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Accountant	1	..	1	..	..	..	..	..	..	1	..	1
Apprentice	1	..	1	2	..	2	..	..	..	3	..	3
Baker	1	..	1	1	..	1	..	..	..	2	..	2
Barmaid	..	1	1	..	..	..	..	..	..	..	1	1
Blacksmith	4	..	4	..	..	..	..	..	..	4	..	4
Boot Repairer	1	..	1	..	..	..	..	..	..	1	..	1
Boundary Rider	..	..	..	1	..	1	..	..	..	1	..	1
Bricklayer	1	..	1	..	..	..	..	..	..	1	..	1
Builder	2	..	2	..	..	..	..	..	..	2	..	2
Bus Driver	1	..	1	1	..	1	..	..	..	2	..	2
Butcher	1	..	1	..	..	..	..	..	..	1	..	1
Builder's Labourer	..	..	..	2	..	2	..	..	..	2	..	2
Cabinet Maker	2	..	2	..	..	..	..	..	..	2	..	2
Cane Cutter	3	..	3	..	..	..	..	..	..	3	..	3
Carpenter	12	..	12	2	..	2	..	..	..	14	..	14
Carrier	3	..	3	..	..	..	..	..	..	3	..	3
Chain Worker	2	..	2	..	..	..	..	..	..	2	..	2
Chemist	..	..	..	1	..	1	..	..	..	1	..	1
Children	5	1	6	..	..	..	14	20	34	19	21	40
Cleaner	3	1	4	..	..	..	..	..	..	3	1	4
Clerk	16	11	27	1	..	1	..	..	..	17	11	28
Cook	3	4	7	..	..	..	..	..	..	3	4	7
Deckhand	..	..	..	..	..	..	1	..	1	1	..	1
Dentist	1	..	1	..	..	..	..	..	..	1	..	1
Domestic Duties	..	3	3	..	..	..	..	..	..	..	3	3
Draftsman	1	..	1	..	..	..	..	..	..	1	..	1
Dressmaker	..	5	5	..	..	..	..	..	..	..	5	5
Electrician	3	..	3	..	..	..	..	..	..	3	..	3
Engine Driver	3	..	3	..	..	..	..	..	..	3	..	3
Engineer	4	..	4	..	..	..	..	..	..	4	..	4
Factory Hand	5	7	12	..	..	..	..	..	..	5	7	12
Farmer	36	..	36	4	..	4	..	..	..	40	..	40
Farm Hand	7	..	7	2	..	2	..	..	..	9	..	9
Fencer	4	..	4	1	..	1	..	..	..	5	..	5
Fireman	1	..	1	..	..	..	..	..	..	1	..	1
Fitter	5	..	5	..	..	..	..	..	..	5	..	5
Gardener	7	..	7	1	..	1	..	..	..	8	..	8
Ganger	1	..	1	..	..	..	..	..	..	1	..	1
Governess	..	2	2	..	..	..	..	..	..	..	2	2
Grazier	1	..	1	3	..	3	..	..	..	4	..	4
Hairdresser	..	1	1	..	..	..	..	..	..	..	1	1
Household Duties	..	..	..	..	8	8	..	..	..	..	8	8
Housekeeper	..	7	7	..	..	..	..	..	..	..	7	7
Housewife	..	354	354	..	51	51	..	..	..	..	405	405
Kiosk Proprietor	..	..	..	1	..	1	..	..	..	1	..	1
Labourer	133	..	133	16	..	16	1	..	1	150	..	150
Laundress	..	1	1	..	..	..	..	..	..	..	1	1
Leadlight Worker	1	..	1	..	..	..	..	..	..	1	..	1
Linesman	3	..	3	..	..	..	..	..	..	3	..	3
Machinist	2	2	4	..	..	..	..	..	..	2	2	4
Meatworker	2	2	4	1	..	1	..	..	..	3	2	5
Mechanic	7	..	7	..	..	..	..	..	..	7	..	7
Milliner	..	1	1	..	..	..	..	..	..	..	1	1
Miner	6	..	6	..	..	..	..	..	..	6	..	6
Moulder	1	..	1	..	..	..	..	..	..	1	..	1
Navvy	..	..	..	1	..	1	..	..	..	1	..	1
Nil	4	3	7	15	14	29	..	..	..	19	17	36
Nurse	..	11	11	..	4	4	..	..	..	..	15	15
Packer	..	..	..	1	..	1	..	..	..	1	..	1
Painter	5	..	5	1	..	1	..	..	..	6	..	6
Panel Beater	..	..	..	1	..	1	..	..	..	1	..	1
Pensioner	49	26	75	7	4	11	2	..	2	58	30	88
Pharmacist	1	..	1	..	..	..	..	..	..	1	..	1
Photo Engraver	1	..	1	..	..	..	..	..	..	1	..	1
Photographer	1	..	1	..	..	..	..	..	..	1	..	1
Piano Tuner	..	..	..	2	..	2	..	..	..	2	..	2
Plasterer	1	..	1	..	..	..	..	..	..	1	..	1
Plumber	5	..	5	1	..	1	..	..	..	6	..	6
Printer	1	..	1	..	..	..	..	..	..	1	..	1
Private Inquiry Agent	1	..	1	..	..	..	..	..	..	1	..	1
Railway Employee	8	..	8	2	..	2	..	..	..	10	..	10
Research Worker	1	..	1	..	..	..	..	..	..	1	..	1
Salesman	9	3	12	1	..	1	..	..	..	10	3	13
Sawyer	1	..	1	..	..	..	..	..	..	1	..	1
School Teacher	1	8	9	1	..	1	..	..	..	2	8	10
Seaman	6	..	6	..	..	..	..	..	..	6	..	6
Shearer	1	..	1	..	..	..	..	..	..	1	..	1
Shop Assistant	3	6	9	..	1	1	..	..	..	3	7	10
Soldier	2	..	2	..	..	..	..	..	..	2	..	2
Solicitor	1	..	1	..	..	..	..	..	..	1	..	1
Station Hand	7	..	7	4	..	4	..	..	..	11	..	11
Stenographer	..	9	9	..	..	..	..	..	..	..	9	9
Storekeeper	3	..	3	1	..	1	..	..	..	4	..	4

TABLE XCVI.—*continued.*

OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1953.—*continued.*

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Storeman	4	..	4	1	..	1	..	..	..	5	..	5
Student	4	..	4	..	..	..	..	..	..	4	..	4
Tailor	1	5	6	..	..	..	..	..	..	1	5	6
Telegraphist	1	..	1	..	..	..	..	..	..	1	..	1
Telephonist	..	2	2	..	..	..	..	..	..	..	2	2
Timber Cutter	4	..	4	1	..	1	..	..	..	5	..	5
Truck Driver	4	..	4	..	..	..	..	..	..	4	..	4
Typist	..	..	..	..	2	2	..	..	..	..	2	2
Unknown	9	8	17	1	..	1	..	..	..	10	8	18
Upholsterer	1	..	1	..	..	..	..	..	..	1	..	1
Waiter	..	..	..	..	..	..	1	..	1	1	..	1
Waitress	..	5	5	..	..	..	..	..	..	..	5	5
Watchmaker	2	..	2	..	..	..	..	..	..	2	..	2
Waterside Worker	2	..	2	..	..	..	..	..	..	2	..	2
Welder	1	..	1	..	..	..	..	..	..	1	..	1
Well Borer	..	..	..	1	..	1	..	..	..	1	..	1
Wool Classer	1	..	1	..	..	..	..	..	..	1	..	1
Yardman	1	..	1	1	..	1	..	..	..	2	..	2
Totals	443	489	932	83	84	167	19	20	39	545	593	1,138

TABLE XCVII.

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1953.

Marital Status.	Admissions.			Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved or not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
Single	224	147	371	123	72	195	2	3	5	44	33	77	965	598	1,563
Married	162	214	376	78	134	212	7	7	14	67	34	101	244	511	755
Widowed	46	116	162	15	26	41	..	3	3	22	45	67	43	215	258
Divorced	5	8	13	..	4	4	..	..	..	..	..	..	15	11	26
Unknown	6	4	10	2	1	3	..	..	..	1	..	1	21	5	26
Totals, Brisbane Mental Hospital	**443**	**489**	**932**	**218**	**237**	**455**	**9**	**13**	**22**	**134**	**112**	**246**	**1,288**	**1,340**	**2,628**
TOOWOOMBA MENTAL HOSPITAL.															
Single	50	17	67	14	7	21	19	16	35	17	14	31	525	333	858
Married	21	51	72	8	24	32	13	31	44	3	10	13	66	226	292
Widowed	8	16	24	3	2	5	1	7	8	5	6	11	17	52	69
Divorced	1	..	1	..	..	..	..	1	1	1	..	1	6	15	21
Unknown	3	..	3	..	..	..	..	1	1	1	..	1	16	4	20
Totals, Toowoomba Mental Hospital	**83**	**84**	**167**	**25**	**33**	**58**	**33**	**56**	**89**	**27**	**30**	**57**	**630**	**630**	**1,260**
IPSWICH MENTAL HOSPITAL.															
Single	16	20	36	2	..	2	2	3	5	14	7	21	290	143	433
Married	2	..	2	..	1	1	..	..	..	5	3	8	48	39	87
Widowed	..	..	..	1	..	1	..	..	..	1	..	1	7	13	20
Divorced	..	..	..	..	..	..	..	..	..	..	..	..	3	5	8
Unknown	1	..	1	..	..	..	..	..	..	..	..	..	10	3	13
Totals, Ipswich Mental Hospital	**19**	**20**	**39**	**3**	**1**	**4**	**2**	**3**	**5**	**20**	**10**	**30**	**358**	**203**	**561**
Grand Totals, all Hospitals	**545**	**593**	**1,138**	**246**	**271**	**517**	**44**	**72**	**116**	**181**	**152**	**333**	**2,276**	**2,173**	**4,449**

TABLE XCVIII.

LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1953.

—	Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE MENTAL HOSPITAL.												
Under 1 month	27	15	42	4	3	7	27	16	43	41	39	80
1 month and under 3 months	76	78	154	1	3	4	21	15	36	43	83	126
3 months and under 6 months	54	69	123	1	..	1	20	17	37	72	98	170
6 months and under 9 months	11	29	40	..	1	1	7	10	17	60	65	125
9 months and under 12 months	17	15	32	..	1	1	8	1	9	46	42	88
1 year and under 2 years	15	14	29	..	1	1	13	14	27	143	144	287
2 years and under 3 years	6	6	12	..	1	1	7	9	16	83	74	157
3 years and under 5 years	5	6	11	..	1	1	8	7	15	133	143	276
5 years and under 7 years	3	1	4	..	..	..	8	5	13	95	132	227
7 years and under 10 years	2	1	3	1	..	1	2	2	4	117	136	253
10 years and under 12 years	..	1	1	1	1	2	2	3	5	65	71	136
12 years and under 15 years	1	2	3	..	..	..	1	3	4	94	104	198
15 years and under 20 years	1	..	1	1	1	2	..	5	5	115	92	207
20 years and over	..	..	..	..	..	..	10	5	15	181	117	298
Totals, Brisbane Mental Hospital	**218**	**237**	**455**	**9**	**13**	**22**	**134**	**112**	**246**	**1,288**	**1,340**	**2,628**
TOOWOOMBA MENTAL HOSPITAL.												
Under 1 month	8	9	17	13	4	17	2	1	3	4	5	9
1 month and under 3 months	10	9	19	9	10	19	2	3	5	10	10	20
3 months and under 6 months	5	5	10	6	3	9	2	2	4	9	11	20
6 months and under 9 months	1	1	2	1	2	3	..	1	1	6	9	15
9 months and under 12 months	..	1	1	..	2	2	2	..	2	8	7	15
1 year and under 2 years	..	5	5	1	8	9	1	4	5	19	24	43
2 years and under 3 years	..	2	2	1	3	4	1	2	3	14	20	34
3 years and under 5 years	..	..	..	1	..	1	2	2	4	47	24	71
5 years and under 7 years	..	1	1	..	2	2	3	..	3	38	37	75
7 years and under 10 years	..	..	..	..	2	2	..	..	..	52	39	91
10 years and under 12 years	..	..	..	..	1	1	..	..	..	34	19	53
12 years and under 15 years	..	..	..	..	2	2	..	1	1	51	46	97
15 years and under 20 years	1	..	1	..	4	4	3	5	8	80	83	163
20 years and Over	..	..	..	1	13	14	9	9	18	258	296	554
Totals, Toowoomba Mental Hospital	**25**	**33**	**58**	**33**	**56**	**89**	**27**	**30**	**57**	**630**	**630**	**1,260**
IPSWICH MENTAL HOSPITAL.												
Under 1 month	..	..	..	..	..	..	3	4	7	12	4	16
1 month and under 3 months	2	..	2	..	..	..	1	1	2	3	2	5
3 months and under 6 months	..	..	..	..	..	..	2	..	2	11	6	17
6 months and under 9 months	1	..	1	1	1	2	1	1	2	13	2	15
9 months and under 12 months	..	..	..	..	..	..	..	..	..	12	4	16
1 year and under 2 years	..	..	..	..	..	..	1	..	1	23	14	37
2 years and under 3 years	..	..	..	..	..	..	..	..	..	16	12	28
3 years and under 5 years	..	..	..	..	..	..	..	..	..	20	21	41
5 years and under 7 years	..	..	..	1	1	2	1	1	2	26	13	39
7 years and under 10 years	..	1	1	..	1	1	..	..	..	52	36	88
10 years and under 12 years	..	..	..	..	..	..	..	..	..	20	16	36
12 years and under 15 years	..	..	..	..	..	..	1	..	1	31	12	43
15 years and under 20 years	..	..	..	..	..	..	..	..	..	41	27	68
20 years and Over	..	..	..	..	..	..	10	3	13	78	34	112
Totals, Ipswich Mental Hospital	**3**	**1**	**4**	**2**	**3**	**5**	**20**	**10**	**30**	**358**	**203**	**561**
Grand Totals, all Hospitals	**246**	**271**	**517**	**44**	**72**	**116**	**181**	**152**	**333**	**2,276**	**2,173**	**4,449**

TABLE XCIX.

EXPENDITURE TABLE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1953.

—	Brisbane Mental Hospital.	Toowoomba Mental Hospital.	Ipswich Mental Hospital.	Total and Average Costs.
Average Number Daily Resident.	2,403.	1,216.	539.	4,158.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total expenditure	734,605 12 8	314,276 8 11	212,538 8 6	1,261,420 10 1
Sales	2,090 10 2	1,193 19 0	822 16 6	4,107 5 8
Net Expenditure	732,515 2 6	313,082 9 11	211,715 12 0	1,257,313 4 5
				Average Costs.
Gross cost per Patient per annum	305 14 1	258 9 0	394 6 5	303 7 5
Net cost per Patient per annum	304 16 6	257 9 5	392 15 10	302 7 8
Gross cost per Patient per week	5 17 7	4 19 5	7 11 8	5 16 8
Net cost per Patient per week	5 17 3	4 19 0	7 11 1	5 16 3

TABLE C.

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF PUBLIC WORKS AT MENTAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR ENDED 30TH JUNE, 1953.

Building.	Expenditure, 1952–53.								
	Revenue.			Loan.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
Mental Hospitals—									
Brisbane (excluding expenditure at the Repatriation Hospital)	1,691	3	10	69,510	19	7	71,202	3	5
Ipswich	1,438	14	6	5,469	3	10	6,907	18	4
Toowoomba	2,843	14	9	618	3	0	3,461	17	9
Charters Towers	10	7	6	56,828	7	1	56,838	14	7
Epileptic Home—Toowoomba	161	6	11	43	15	8	205	2	7
	6,145	7	6	132,470	9	2	138,615	16	8

DETAILS OF EXPENDITURE ON MAJOR WORKS

	Details.	Expenditure. 1952–53. £	s.	d.
Brisbane Mental Hospital ..	Access roads to new Farm Wards ..	3,296	6	2
	Construction of Internal Roadways ..	10,561	4	8
	Erection of various buildings—Recreation Grounds for Female patients	14,957	9	11
	Attention to Morgue	2,918	18	2
	Erection of Ward "A"—Farm Colony ..	21,231	5	1
	Additions and alterations to Kitchen ..	11,363	5	1
Ipswich Mental Hospital ..	Provision of new Laundry, Storerooms and alterations to Children's Wards	3,545	15	8
Toowoomba Mental Hospital ..	External painting of various buildings ..	2,138	6	2
Charters Towers Mental Hospital	Erection of Male and Female Admission Wards	47,132	19	4
	Provision of Water Supply	1,529	11	8
	Provision of Equipment for Male and Female Admission Wards	6,576	0	6

TABLE CI.

POPULATION CHANGES AT EPILEPTIC HOME DURING THE YEAR 1952–53.

PATIENTS AT 30TH JUNE, 1952: MALES 49; FEMALES 62; TOTAL 111.

FOR YEAR ENDED 30TH JUNE, 1953.

Age.	Admitted.		Discharged.		To Ment. Hosp.		Deaths.		Remaining.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Under 5	..	..	..	..	..	..	..	..	1	..	1
5—10	..	..	..	..	..	..	..	..	2	..	2
10—15	..	..	..	..	..	..	..	..	4	5	9
15—20	..	1	1	1	1	..	..	..	3	8	11
20—25	..	..	..	1	..	..	..	..	3	4	7
25—30	1	1	1	2	..	..	..	1	9	5	14
30—35	..	..	..	..	..	..	..	..	3	9	12
35—40	..	1	..	1	..	..	..	..	4	7	11
40—45	..	..	..	..	..	..	..	..	4	5	9
45—50	..	..	..	..	..	..	1	..	9	6	15
50—55	..	1	..	..	..	..	..	1	..	6	6
55—60	..	..	..	..	..	..	..	..	2	1	3
50—65	..	..	..	..	..	..	..	..	1	3	4
Over 65	..	..	..	..	..	..	..	..	..	1	1
Totals	1	4	2	5	1	..	1	2	45	60	105

PATIENTS RESIDENT—

Under 5 years	45
5—10	22
10—15	17
15—20	10
Over 20	11

CAUSES OF DEATH—

Female aged 52.	Cerebral Thrombosis, Hypertension, Epilepsy.
Male aged 49.	Carcinoma of Stomach
Male aged 27.	Cerebral Thrombosis, Epilepsy.

TABLE CII.

EXPENDITURE TABLE, EPILEPTIC HOME, FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1953

Average Number Daily Resident—104.

	£	s.	d.
Gross Expenditure	28,374	7	10
Collections	10,898	9	5
Net Expenditure	17,475	18	5
Gross cost per patient per annum	272	16	7
Net cost per patient per annum	168	0	9
Gross cost per patient per week	5	4	11
Net cost per patient per week	3	4	8

TABLE CIII.

YEARLY SUMMARY OF PATIENTS TREATED AT THE PSYCHIATRIC CLINIC, CLASSIFIED IN AGE GROUPS ACCORDING TO DIAGNOSIS, 1952–53.

—	0–4.		5–9.		10–14.		15–19.		20–29.		30–39.		40–49.		50–59.		60&over		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Schizophrenia	..	..	1	..	1	..	4	2	11	8	6	6	3	7	5	5	1	1	32	29	61
Manic-Depressive	..	..	..	..	..	..	..	..	..	..	1	2	3	4	..	3	..	3	4	12	16
Depressional Involutional	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	3	3
Paranoic and Para. States	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	..	2
Organic	..	..	..	1	4	..	..	..	1	..	1	..	2	1	1	..	..	3	9	5	14
																			47	49	96
Anxiety	..	..	..	..	..	..	1	..	4	9	5	11	3	5	3	..	..	..	16	25	41
Hysteric	..	..	..	..	..	..	..	..	3	2	1	..	1	..	..	..	..	..	5	2	7
Phobic	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	1	2	3
Hystero-Anxiety	..	..	..	..	..	..	..	..	..	2	1	..	2	1	..	..	..	..	3	3	6
Obsessive-Compulsive ..	..	..	..	..	..	..	..	..	1	..	3	2	..	..	..	..	..	..	4	2	6
Neurotic Depression ..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	3	1	..	1	4	3	7
Anxiety and Depression ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	2
Other Psychoneuroses ..	..	..	..	..	..	..	..	..	..	2	1	1	2	1	1	1	..	..	4	5	9
																			39	42	81
Alcoholism	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	1	1	2
Inadequate and Immature Personality	..	..	2	1	2	..	2	1	..	1	..	..	..	..	..	..	..	..	6	3	9
Deviant Personality ..	..	..	1	..	7	1	5	2	13	3	3	1	3	1	2	..	1	..	35	8	43
																			41	11	52
Epilepsy	..	..	..	1	1	..	..	2	2	..	..	1	1	1	..	..	..	..	4	5	9
Spastic	..	1	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	1	3	4
																			5	8	13
Behaviour Problem ..	26	8	27	20	18	15	2	1	..	..	..	..	..	..	..	..	..	..	73	44	117
Mental Deficiency	8	4	15	8	7	4	6	2	3	2	1	4	1	2	2	..	..	..	43	26	69
Borderline Deficiency ..	..	..	2	3	2	..	..	1	..	..	1	..	..	1	..	..	..	..	5	5	10
																			48	31	79
Educational Backwardness	..	..	2	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5
Stammering	7	2	9	3	2	..	6	4	7	1	..	..	..	..	..	..	..	..	31	10	41
Alalia	4	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	8
Dyslalia and Ret. Sp. Devt.	17	6	16	13	3	2	..	..	..	..	..	..	..	..	..	..	..	..	36	21	57
Cleft Palate	6	1	4	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	4	14
Aphasia	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Idioglossia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Laryngectomy	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	3	..	3
Partially Deaf	3	5	5	2	3	4	..	..	1	..	1	1	1	..	..	..	..	..	14	12	26
Aphonia and Dysphonia ..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	1	3
Hyperrhinophonia ..	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Other	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
																			107	52	159
Not yet diagnosed, NAD, &c.	4	1	1	4	2	4	1	3	2	4	..	5	3	1	..	1	..	1	13	24	37
Grand Total ..	76	30	89	61	55	32	28	18	51	37	28	36	28	28	17	12	6	9	378	263	641

Diagnostic Testing at Brisbane Mental Hospital—Males, 16 ; Females, 7 ; Total, 23.
Referred by Mental Hospitals—Males, 13 ; Females, 27 ; Total, 40.

TABLE CIV.

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1953.

Total number of patients on books as at 30th June, 1952		96
Transferred from Brisbane Mental Hospital ..		61
		157
Discharged, recovered	24	
Discharged, improved	1	
Discharged, Section 49	1	
Voluntary left	3	
Died	2	
Transferred to Brisbane Mental Hospital	22	
Transferred to Ipswich Mental Hospital..	3	
		56

Total number of patients on books as at 30th June, 1953	101
Total number of patients on leave as at 30th June, 1953	5
Total number of patients in residence as at 30th June, 1953	96
Average number of patients daily resident ..	91

DIVISION OF LABORATORY SERVICES.

LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

Director: J. I. Tonge, M.B., B.S. (Syd.)., Dip. Clin. Path. (Syd.).

Deputy Director: M. J. J. O'Reilly, M.B., B.S. (Syd.).

Senior Bacteriologist and Technical Supervisor: H. E. Brown.

1. Statistical Summary.
2. Laboratory Development.
   - (a) Tuberculosis Laboratory.
   - (b) Media Room and Glass Washing Facilities.
   - (c) Histology.
   - (d) The Animal House at College Road.
   - (e) Future Expansion of the Laboratory.
3. The Serology of the Pyrexias of Unknown Origin.
   - (a) Leptospirosis.
   - (b) Q. fever.
   - (c) The Typhus Group.
     - (i.) Scrub Typhus.
     - (ii.) Murine and Tick Typhus.
4. Tuberculosis Laboratory.
5. Photography.
6. Publications.

TABLE CV.

1. Bacteriology.

A. Specimens of Human Origin.

Specimen.	Mode of Examination.	Number.
Swabs—		
Throat Nose	Culture	1,578
	Direct Smear	43
	Antibiotic Sensitivity Tests	44
Urethra Cervix Bartholin's Gland Anus	Culture	959
	Direct Smear	4,946
	Antibiotic Sensitivity Tests	20
Ear	Culture	12
	Direct Smear	12
	Antibiotic Sensitivity Tests	71

TABLE CV.—*continued.*

A. Specimens of Human Origin—continued.

Specimen.	Mode of Examination.	Number.
Swabs—		
Eye	Culture	4
	Direct Smear	4
	Antibiotic Sensitivity Tests	15
Sinus	Culture	3
Mouth	Culture	6
	Direct Smear	6
	Antibiotic Sensitivity Tests	10
Leg	Culture	4
	Direct Smear	2
	Antibiotic Sensitivity Tests	20
Pharynx	Culture	1
	Direct Smear	1
Teeth	Culture	2
	Direct Smear	2
Cheek	Culture	1
	Direct Smear	1
Pus	Culture	62
	Direct Smear	53
	Antibiotic sensitivity Tests	160
Pleural Fluid	Culture	11
	Direct Smear	13
Cerebrospinal Fluid	Culture	60
	Microscopical	79
Seminal Fluid	Microscopical	13
Synovial Fluid	Culture	6
	Microscopical	6
Pericardial Fluid	Culture	1
	Microscopical	1
Hydrocoele Fluid	Microscopical	1
Abdominal Fluid	Microscopical	2
Serous Exudate	Direct Smear	2,911
	Dark Ground Microscopy	20
Sputum	Culture	31
	Direct Smear	33
	Antibiotic Sensitivity Tests	40
Blood	Culture	29
	Direct Smear	12

TABLE CV.—*continued.*

Specimen.	Mode of Examination.	Number.
Swabs—		
Urine	Culture	920
	Microscopical ..	1,728
	Antibiotic Sensitivity Tests ..	1,467
Faeces	Culture	140
	Microscopical ..	18
	Antibiotic Sensitivity Tests ..	9
Bronchial Washing ..	Culture	1
	Direct Smear ..	1
Post-mortem Swabs and Tissues ..	Culture	53
	Direct Smear ..	40
Virulence Tests for *Corynebacterium Diphtheriae* ..	..	60
		15,748

TUBERCULOSIS SECTION.

Specimen.	Mode of Examination.	Number.
Sputum	Culture	2,719
	Direct Smear ..	2,719
Gastric Contents ..	Culture	945
	Animal Inoculation	862
Urine	Culture	37
	Microscopical ..	37
	Animal Inoculatiion	38
Pus	Culture	9
	Direct Smear ..	9
	Animal Inoculation	5
Pleural Fluid ..	Culture	11
	Microscopical ..	11
	Animal Inoculation	11
Cerebrospinal Fluid..	Culture	5
	Microscopical ..	5
	Animal Inoculation	5
Synovial Fluid ..	Culture	4
	Microscopical ..	4
	Animal Inoculation	4
Gland	Culture	1
	Direct Smear ..	1
	Animal Inoculation	2
		7,444

B. Foods and Waters.

Specimen.	Mode of Examination.	Number.
Water	Culture	293
	Plate Count ..	291
	Microscopical ..	55
Milk	Culture	436
	Plate Count ..	333
	Reductase Test ..	91
	Microscopical ..	4
Ice Cream	Culture	5
	Plate Count ..	5
Condensed Milk ..	Culture	1
Ice Blocks	Culture	4
	Plate Count ..	4
" Rarza " Soft Drink	Culture	1
Horehound	Culture	1
Oysters	Culture	10
	Plate Count ..	15
Ling Fish	Culture	1
Cooked Prawns ..	Culture	1
Dehydrated Mushrooms	Culture	1
Frankfurt	Culture	1
Bread	Culture	4
Sliced Bread.. ..	Culture	1
Flour	Culture	1
		1,559

TABLE CV.—*continued.*

C. Various Materials.

Specimen.	Object of Examination.	Number.
Disinfectants and Antiseptics ..	Rideal-Walker Coefficient	12
	Germicidal Value..	11
Soap	Germicidal Value ..	1
Liquid Soap ..	Rideal-Walker Coefficient	1
	Germicidal Value..	16
Biological Products..	Sterility	2
Bottles	Sterility	12
Tin	Sterility	1
Bacterial Cultures ..	Identification ..	20
	Antibiotic Sensitivity Tests ..	67
	Presence of *Cl. tetani*	1
Catgut	Presence of *Cl. tetani*	3
Powder	Presence of *Cl. tetani*	1
Surgical Sponge Cloth	Presence of *Cl. tetani*	1
Gauze and Cotton Wool Dressing ..	Presence of *Cl. tetani*	1
Cheesecloth	Presence of *Cl. tetan*	2
" Procaine " ..	Culture	1
Concentrated Tinct. Opii.	Culture	1
Extract Pro Tinct. Opii.	Culture	1
Septic Effluent ..	Culture	1
Sewage Effluent ..	Presence of *E. typhosi*	23
" Destrol " Sewage Effluent	Sterility	5
" Chemel " Sewage Effluent	Sterility	2
River Water.. ..	Culture	1
River Silt	Culture	1
Beach Sand	Culture	3
Glass Washings ..	Culture	5
Skin Scrapings ..	Presence of Fungi ..	9
Tobacco	Presence of Yeasts and Moulds ..	2
		207

2. SEROLOGY.

—	Number.
Serum Agglutination Tests—	
Eberthella typhosa (H)	1,872
Salmonella paratyphi (H)	1,848
Salmonella schottmulleri (H)	1,848
Proteus OX19	1,854
Proteus OXK .. .. :. ..	1,855
Brucella abortus	1,853
Leptospira Pomona	2,127
Leptospira australis A	2,127
Leptospira australis B	2,127
Leptospira mitis	2,127
Leptospira icterohæmorrhagiae	2,127
Leptospira canicola	2,127
" Harold Ives " Strain	2,127
" Celledoni " Strain	2,127
" Robinson " Strain	2,127
" Kremastos " Strain	1,634
" Szwajizak " Strain	1,106
Coxiella burneti	2,095
Paul Bunnell Tests	58
Complement Fixation Tests—	
Coxiella burneti—	
Routine	1,585
Quantitative	165
Rickettsialpox (Soluble)—	
Routine	1,230
Quantitative	93
Typhus Fever Murine (Soluble)—	
Routine	41
Quantitative	19
Lygranum C.F.	3
Eagle Wassermann (Serum)—	
Routine	4,538
Quantitative	96
Eagle Wassermann (C.S.F.)	147
Flocculation Tests—	
Kline	4,925
Kahn	1,149
Lange Colloidal Gold Reaction (C.F.S.) ..	106
Leptospiral Strains Typed (60)—	
Agglutination Tests Performed	2,500
Leptospiral Antisera Prepared	65
	51,828

TABLE CV.—*continued.*

3. BIOCHEMISTRY.

Specimen.	Examined for.	Number.
Whole Blood	Urea	290
	Sugar	29
	Uric acid	31
	Pigments	6
	Cloride (as NaCl) . .	17
	Cholesterol	3
Plasma	Chloride (as NaCl) . .	2
	Sodium (as Na) . .	2
	Bilirubin	1
	Phorphorus	1
Serum	Calcium	23
	Protein	310
	Cholesterol	41
	Bilirubin	99
	Chloride (as NaCl) . .	6
	Sodium (as Na) . .	6
	Acid phosphatase . .	15
	Alkaline phosphatase	106
	Inorganic phosphate	11
	Potassium	6
	Amylase	4
	Phosphorus	2
	Non-protein nitrogen	1
	Thymol turbidity . .	102
	Thymol flocculation	60
	Zinc sulphate turbidity	60
	Albumin-globulin ratio	53
Cerebrospinal Fluid	Protein	109
	Globulin	97
	Chloride (as NaCl) . .	101
	Sugar	105
	Urea	23
	Pigments	1
Pleural Fluid . .	Protein	2
Ascitic Fluid . .	Protein	1
	Sugar	1
	Chloride (as NaCl) . .	1
	Urea	1
Sputum	Blood	2
		1,731
Urine	Albumin	1,779
	Sugar	1,780
	Acetone Bodies . .	1
	Pigments	13
	Bile pigments . .	1
	Urea	7
	Diastase	4
	Bile	1
	Vitamin C.	1
Faeces	Total, Split and Unsplit Fats	52
	Occult Blood . .	34
	Creatorrhoea . .	6
	Bilirubin	1
	Trypsin	19
Duodenal Contents . .	Trypsin	8
Renal Calauli . .	Chemical constitution	23
		5,461
Functional Tests . .	Glucose tolerance tests	126
	Urea clearance tests	88
	Urea concentration tests	99
	Fractional test meals	169
		482

TABLE CV.—*continued.*

4. HAEMATOLOGY.

——	Number.
Cell Counts—	
Red Cells (Total)	2,483
Red Cells (Stippled)	870
Reticulocytes	10
White Cells (Total)	3,513
White Cells (Differential)	3,045
Platelet Count	24
Haemoglobin Estimations	4,863
Haematocrit	1,597
Sedimentation Rate	225
Coagulation Time	42
Bleeding Time	39
Prothrombin Time	5
Clot Retraction Time	4
Red Cell Fragility	9
Blood Grouping (A.B.O.)	1,666
Blood Typing (Rh)	1,666
	20,061

5. PARASITOLOGY.

Specimen.	Object of Examination.	Number.
Faeces	Amoebae (Cysts and vegetative) . .	84
	Helminth ova . .	238
Pus	Trichomonas vaginalis	11
Blood	Microfilariae . .	1
	Plasmodium sps. . .	28
Urine	Schistosome ova . .	5
Helminth	Identification . .	10
		377

6. VARIOUS TESTS.

——	Number.
Male Toad Test (Pregnancy)	1,724
Casoni Skin Test	6
Histoplasmin Skin Test	1
" Cat-scratch " Skin Test	6
	1,737

7. HISTOLOGY.

Tissues Sectioned.	Number.
Human—	
Biopsy	3,491
Post-mortem	1,640
Animal—	
Guinea-pig	6
	5,137

TABLE CV.—*continued.*

8. MEDICO-LEGAL.

Clothing—	
Blood	67
Spermatozoa	110
Various Articles—	
Blood	51
Spermatozoa	29
Identification	2
Smears—Spermatozoa	11
Swabs—Spermatozoa	2
Tissue—Examination	55
Hair—Identification	14
Blood—Identification	15
Scrapings—Identification	1
Bones—Identification	27
Skull—Identification	1
Skeleton—Identification	2
Tetanus Anti-toxin—Culture	1
	388
Post-mortem Examinations	541
Attendances at Courts—	
Supreme Court	34
Police Court	37
Coroner's Court	26
Other Courts	8

EXAMINATION OF RODENTS.

Rodents received for examination from Brisbane City Council :—

Classification—	
Rattus norvegicus	10,391
Rattus rattus	49
Unclassified	2,440
Mus musculus	7
	12,887

Special Examinations for Plague—	
Rats fully dissected	433
Spleen smears examined	433

Rat Smears Received from other Centres—	
Bundaberg	166
Maryborough	120
Gympie	189
Ipswich	432
Sandgate	729
Wynnum	704
Meatworks (Brisbane area)	61
	2,401

No rat was found infected with *Pasteurella pestis.*

10. MATERIAL SUPPLIED.

One hundred and seventy-eight (178) requisitions were supplied during the year to hospitals, private practitioners and local authorities, consisting of 2,725 Swabs, 2,713 McCartney bottles, 72 Wright's capsules, 213 urine bottles, 162 faeces tins, 54 blood bottles, 96 C.S.F. bottles and 6 Agar slopes.

2. LABORATORY DEVELOPMENT.

(*a*) *Tuberculosis Laboratory.*—The new laboratory established in portion of the female clinic was opened in September, 1952. The unit consists of two laboratories, one for the reading of cultures and microscopic examination of specimens, the other for the processing of infected material prior to inoculation. Adjacent to this latter laboratory is an inoculation room fitted with ultraviolet light and exhaust ventilation. The laboratory accommodation is good and the adjacent animal house is adequate for the present volume of work. The new autopsy room for infected animals is used both by the tuberculosis unit and the main laboratory. Media for the tuberculosis laboratory is prepared in the general media room.

(*b*) *Media Room and Glass Washing Facilities.*—Extensive alterations to the media preparation and glass washing units have been carried out and these are nearly completed. Four additional sinks, new stills, two boilers, a new hot water system and a large semi-industrial water softener have been installed. The room used for the washing and preparation of glassware has been extended and the facilities generally improved. A new refrigerator has been installed in the media room.

(*c*) *Histology.*—Eighteen new steel filing cabinets for biopsy and post-mortem sections have been ordered and should be delivered soon. These cabinets are designed for the vertical filing of slides and will ease the problem of permanent storage of large numbers of sections. A new freezing microtome has been purchased.

(*d*) *The Animal House at College Road.*—With the greatly increased demand for animals by the tuberculosis laboratory, the accommodation for animals at College Road has proved to be grossly inadequate. Plans have been drawn for a new rabbit room, alterations to the existing feed room and stalls, the provision for a new manure pit and for the paving of the existing courtyard. It is hoped that these improvements will be carried out in the near future.

(*e*) *Future Expansion of the Laboratory.*—During the past two years the work of the laboratory has greatly increased and this has been mainly due to the increased demand for clinical pathology investigations by country hospitals and private practitioners, the detailed and extensive investigation of the fevers of North Queensland in association with the Queensland Institute of Medical Research, and the opening of the Tuberculosis Laboratory. This increased activity is gratifying and essential, but it has made the problem of laboratory accommodation a critical one.

Further expansion is envisaged when further accommodation is available. It is intended that this laboratory will be a central reference laboratory, and in keeping with the departmental policy of bringing doctors and matrons to Brisbane for refresher courses, it will provide refresher courses of training for technicians in smaller hospitals. Diagnostic kits will be prepared and made available to practitioners throughout the State so that specimens can be collected and forwarded to the central laboratory for examination where the area is not served by a Commonwealth Health Laboratory. This will give all areas in the State a pathological service. It is interesting to note that Commonwealth Health Laboratories at Cairns, Townsville, and Toowoomba will in the near future be located in the public hospital grounds.

It is appreciated that extra accommodation has been made available during the past two years to allow the present expansion to take place, but store rooms and extra accommodation for medico-legal investigations and to ease the overcrowding are necessary.

3. THE SEROLOGY OF THE PYREXIAS OF UNKNOWN ORIGIN.

This section has been very active during the year and 2,127 sera have been examined. Of these, 786 were submitted from the Field Station of the Queensland Institute of Medical Research at Innisfail and 1,341 from various practitioners and hospitals throughout the State, as well as from New South Wales and New Zealand.

All sera submitted for investigation have been screened with the following battery of tests:—Widal and Weil Felix, agglutination with *Coxiella burneti, Brucella abortus* and all available strains of leptospira, which now number eleven. Complement fixation tests with *Coxiella burneti* and *Rickettsia akari* are also carried out on all sera submitted from the Field Station, as well as on all paired sera or where the history is particularly suggestive. When indicated, Complement fixation tests are performed with *Rickettsia mooseri* and "Lygranum." An agglutinating antigen of Streptococcus MG has been prepared and is used where the diagnosis of Atypical pneumonia is suspected.

Preliminary typing was made on all cultures of leptospira submitted to the laboratory. The cultures were tested against stock antisera of known titre and an antiserum was prepared by injecting the culture into rabbits. This rabbit antiserum was then titrated against all the laboratory stock cultures. This typing of the leptospiral cultures involved a great deal of painstaking work, and at various times, over eighty cultures were being maintained.

The increase in the number of sera submitted for investigation from private practitioners and hospitals can be attributed to the increased interest that is now being taken in these pyrexias of unknown origin, to the appreciation of the necessity for forwarding paired sera from patients and to the more complete and satisfactory serological service that is now supplied.

(*a*) *Leptospirosis.*—Thanks to the close collaboration of the Field Station of the Queensland Institute of Medical Research in collecting and forwarding cultures and sera to the Laboratory of Micro-Biology and Pathology for investigation, much has been added to our knowledge of leptospirosis in North Queensland.

During the year 60 strains of leptospira, obtained from patients during the febrile period, were typed. The types to which they belong, including the 25 cultures typed during the previous year, are shown in Table CVI. In addition Table CVI. includes 65 cases in which culture either failed or was not attempted and the diagnosis of leptospirosis was made with reasonable certainty by the demonstration of a significant rise in titre of agglutinating antibodies.

From this table it will be seen that there are at least eleven types of *Leptospira* responsible for human infections in North Queensland. It is interesting to compare this figure with the 14 strains reported in Indonesia, 11 in Europe and 8 in North America.

TABLE CVI.

TYPES OF LEPTOSPIRAL INFECTIONS IN NORTH QUEENSLAND.

(Sera and Cultures Submitted by Q.I.M.R.)

——	Cases Diagnosed by Culture.	Cases Diagnosed by Agglutination.	Total.
L. icterohaemorrhagiae	2	2	4
L. canicola	6	2	8
L. australis A. . .	15	12	27
Pyrogenes Group—			
L. australis B. . .	21	11	32
" Robinson " . .	6	6	12
L. pomona	2	. .	2
L. mitis	8	6	14
Hebdomadis Group—			
L. medanensis . .	2	. .	2
" Kremastos " . .	14	6	20
" Szwajizak " . .	4	3	7
" Celledoni " . .	4	7	11
Type not determined	1	10	11
	85	65	150

Last year it was reported that five cultures, belonging to the *hebdomadis* group of leptospirae, had been isolated and fifteen more cultures of this group were found this year. It soon became apparent that, of these twenty cultures, there were antigenic differences of sufficient degree to subdivide them into three distinct types. One of these types appears to be identical with *L. medanensis.* The other two types are still referred to as "Kremastos" and "Szwajizak," after the names of the patients from whom they were isolated, pending their final typing. These two latter types may prove to be identical with known members of the *hebdomadis* group or may be entirely new members of that group.

The "Robinson" strain appears to be sufficiently distinct to be separated from the *Australis B.* type, but whether it should be regarded as a distinct entity or merely a serotype of the *Pyrogenes* group has yet to be determined.

Four cultures were found to belong to the "Celledoni" type of leptospira. This strain was first isolated in North Queensland last year and the name was allotted temporarily after the first patient from whom it was isolated. No further information is available about its true designation, but preliminary investigations, carried out by Dr. Broom, suggest that it may be a new world entity.

The recovery by culture of *L. icterohaemorrhagiae* in North Queensland in two cases is of considerable interest as it confirms the previous suspicion that *L. icterohaemorrhagiae* occurred in this area, the previous reports having been based on the serological reactions of patients' sera to stock cultures.

In the cases diagnosed by agglutination tests on the patient's serum alone, identification of the type of leptospira causing an infection is often somewhat tentative, even when two or more sera are examined. It has occasionally been noted that in cases proven by culture, heterologous titres may exceed those of the infecting type of leptospira. Anamnestic rises of agglutinin titres are not uncommon and may prove to be most misleading. It is difficult enough to express an opinion as to the infecting type even in paired sera and it is quite unreliable to express an opinion on a single convalescent serum since not infrequently agglutinins may be present which are due to a previous infection. Repeated attacks of leptospirosis are not uncommon in North Queensland and several patients encountered in this series have demonstrated this point clearly. One patient, who had Scrub typhus in March, 1952, was infected with *L. australis B.* in the following May and *L. mitis* in November of the same year. Another patient was infected with the "Celledoni" type of leptospira in September, 1951, and a "Kremastos" type infection in May, 1952. A third patient acquired an infection with *L. australis B.* in August, 1952, and in February of the following year was infected with *L. australis A.*

Of the sera submitted, apart from the Field Station, from miscellaneous sources in North Queensland, twenty-one were found to react to one or more of the eleven various strains of leptospirae found in that area in titres of 100 or greater.

The frequency distribution of the various types of leptospirae found in North Queensland in our series is most frequently *Australis B,* then *Australis A,* "Kremastos," *mitis,* "Robinson," *"Celledoni," canicola,* "Szwajizak," *pomona, icterohaemorrhagiae* and *medanensis.*

In Southern Queensland, the occurrence of leptospirosis is somewhat different. Unfortunately, only two cultures were obtained in this region and these were both *L. icterohaemorrhagiae,* obtained from patients in the Brisbane area. Of the sera submitted from miscellaneous sources in Southern Queensland, thirty-eight reacted in titres of over 300 to the following types of leptospirae: *pomona* 18, *mitis* 9, *icterohaemorrhagiae* 6, *mitis* and *pomona* 2, *canicola* 1, *icterohaemorrhagiae* and *canicola* 1, *Australis A.* and *pomona* 1. In this last reaction, the crossing of *L. Australis A.* and *L. pomona* in high titres occurred in a man who had never been in an area where infections with *L. autralis A.* are known to occur. This "crossing" may be of a non-specific character or may indicate the presence of a serological variant of *L. pomona.* This phenomenon is being investigated.

It is worthy of note that so far none of the new strains isolated in North Queensland has appeared in Southern areas. There is, however, some important unpublished evidence to suggest that the *hebdomadis* group of leptospirae may be causing infection in cattle in Southern States. In a series of 85 bovine sera submitted from New South Wales, it was found that 7 gave titres of 100 or greater with *L. australis A.*

The position may be more complicated than it would seem in Southern Queensland, and there may be more than the three strains known to be present, causing infections. If our knowledge of leptospirosis in Southern Queensland is to be more complete, it is essential that cultures be obtained from patients in this area in a manner similar to that occurring at Innisfail.

Seven sera submitted to the laboratory from the Tweed district in northern New South Wales gave significant titres for *L. pomona* and six sera from New Zealand gave significant titres, (4 of them over 1,000) for the same organism.

(*b*) *Q. fever.*—Both the complement fixation test and the agglutination test with *Coxiella burneti* are now used as a routine in this laboratory for the diagnosis of Q. fever. The complement fixation test has been established as a routine since January, 1953.

During the year, fifty-nine cases of Q. fever have been diagnosed, mostly by examination of paired sera. One of the cases was from the Tweed district of New South Wales, and one from Broken Hill, the remainder having occurred in Queensland.

Of the sixty-two cases, twenty-seven were diagnosed by using the agglutination test only, the remaining thirty-five were confirmed by the complement fixation test.

In our experience both the agglutination and complement fixation test have a place in the diagnosis of Q. fever, and when a larger series is available, the comparative efficiency of these two procedures can be properly evaluated.

Q. fever was first recognised as a specific disease in 1935 in Brisbane and thus the first recognised cases in the world occurred in Queensland. It was decided, therefore, to carry out a survey of as many of the patients as possible who had Q. fever in those early years in order to study the duration of complement fixation and agglutination titres for *C. burneti.* As far as possible the patients are being divided into the following groups, viz.: abattoir workers who had Q. fever and have since remained in the industry; abattoir workers who have left the industry since their infection; laboratory workers; patients infected with Q. fever in occupations apart from the abattoirs. To date, seventy of the early Q. fever cases have been traced and their sera tested by the agglutination and complement fixation tests. The results have not been analysed as yet, but it is hoped to publish a full report of this investigation. The results of this study are of considerable practical importance, since it will assist in the interpretation of results found in future random surveys of population groups for Q. fever, such as are being carried out in England.

During the year, a survey of the sera from eighty-five cattle from southern New South Wales was carried out at the request of the Commonwealth Animal Quarantine Service and none showed evidence of infection with *Coxiella burneti.*

(*c*) *The Typhus Group.*—All sera submitted for investigation were tested for their reaction to *Proteus* OX19 and OXK. All paired sera were tested by the complement fixation test for

Rickettsia akari, and whenever a significant titre was obtained with suspensions of *Proteus* OX19, the diagnosis of murine typhus was confirmed by complement fixation tests with *Rickettsia mooseri.*

(i.) *Scrub Typhus.*—From the paired sera submitted from the Field Station of the Queensland Institute of Medical Research at Innisfail, thirteen cases of scrub typhus were diagnosed. Of miscellaneous sera submitted from North Queensland, seven reacted to *Proteus* OXK in titres of 160 or greater.

Sera from three patients in Southern Queensland were found to give titres with *B. proteus* OXK in the following titres, 1/160, 1/320 and 1/2560. Two of these patients were from Brisbane and one from Pittsworth on the Darling Downs. Their illness in no way resembled scrub typhus, and none had been in an area where the disease is known to occur. These reactions with *B. proteus* OXK are most probably a response to infection with one of the *Proteus* group, and if they were detected in an area where scrub typhus occurred, they could prove most misleading.

Another example of the misleading reactions with *Proteus* OXK which can occur was reported last year and has since been investigated further. The patient was from Southport and he had never been in a scrub typhus area. Three sera were submitted for examination, having been collected on the nineteenth, thirtieth and forty-fourth days irrespectively since the onset of a vague pyrexial illness. The titres obtained with *B. proteus* OXK were respectively 1/160, 1/320 and 1/160. The patient's urine produced a pure culture of *Proteus mirabilis.* This organism was subsequently used to prepare an antiserum in rabbits, and the antiserum so obtained was found to agglutinate *Proteus mirabilis* in a titre of 1/5120 and *Proteus* OXK in a titre of 1/2560.

(ii.) *Murine and Tick Typhus.*—Twenty sera from different patients were found to give titres with *B. proteus* OX19 of over 1/160. Seven of these patients were from North Queensland, nine from Southern Queensland and the remainder from the Tweed district of New South Wales. The diagnosis of murine typhus was confirmed in all those sera checked with complement fixation tests, and no serum gave a significant titre with *Rickettsia akari.* The complement fixation tests with *R. akari* is being used in the absence of a specific antigen for tick typhus as a means of distinguishing murine from tick typhus, but as yet no significant results have been obtained and its efficiency as a test for tick typhus is still questionable.

4. TUBERCULOSIS LABORATORY.

The new tuberculosis laboratory was opened in September, 1952, and since then the work of this section has greatly increased. During the year, 3,731 specimens were examined, of which 2,719 were sputa, 945 gastric lavages and 67 miscellaneous. The majority of these specimens were received from the Chest Clinic, but others have come from private practitioners and hospitals throughout the State.

All specimens are cultured and all but the sputa were inoculated into guinea-pigs. Sputum smears in addition were examined microscopically. During the processing of the specimens, incubation has given place to violent agitation in a "paint shaker," as it has been found that this speeds the work, gives better homogenisation and reduces the risk of the alkali affecting the viability of the organisms. Penicillin is added to the centrifuged deposit as a routine prior to inoculation of the media or guinea-pigs.

Four tubes of Lowenstein-Jensen medium, prepared in one ounce McCartney bottles, are inoculated and the cultures are read weekly for a period of six weeks. Guinea-pigs are observed for eight weeks before being autopsied.

Careful records have been maintained, together with monthly statistical summaries, as it has been found that by such means any faults in technique or in the media soon become apparent and can be rectified.

It has been found that there is little to choose between culture and guinea-pig inoculation as a means of diagnosing tuberculosis, and it is felt that as long as facilities permit, both should be used. It is of interest that the acid-fast saprophyte rate is far lower in gastric lavage specimens in our material than is the usual experience overseas. In the material submitted to us, the acid-fast saprophyte rate is almost the same in sputum and gastric lavage specimens.

A study has been made recently of the positive cultures obtained from gastric lavage specimens by the *in vitro* neutral red test for virulence. This work is still proceeding.

Sensitivity tests have been performed only when requested, but it is planned in the new year to carry out routine sensitivity tests to Streptomycin on all cultures from new patients in order to determine the natural resistence, if any, of "wild" strains of *M. tuberculosis* to this drug.

5. PHOTOGRAPHY.

During the year, the photographic equipment has been used with increasing frequency and the general technique has improved with the passage of time. The aim has been to obtain a permanent and vivid record of pathological changes seen in the autopsy room, which will amplify and illuminate the routine post-mortem report. In addition, an effort is being made to build up a collection of material which will be suitable for the illustration of lectures on Forensic Medicine, and at the same time will serve as a valuable means of reference for individual cases which necessitate an appearance in court. Most of the photography has been done on Kodachrome colour film, and the transparencies are suitable for direct viewing and for projection. Already a collection of interesting material is available and this will be added to very considerably during the coming year.

Some photomicrography has also been done, and this technique was found in a recent murder trial to be a valuable means of demonstrating to the Court differences and similarities between hairs derived from various sources. As well as such medico-legal applications, the record of the microscopic appearances of specimens is frequently of great value in demonstrating the significance and nature of any lesion seen macroscopically.

6. Publications.

O'Reilly, M. J. J. (with Powell, R. E.): "Nocardial Infection in Australia," Medical Journal of Australia, Volume I., 1953, page 703.

Smith, D. J. W., Brown, H. E., and Tonge, J. I. (with Sinnamon, C. N. and Pask, V. M.): "Canicola Fever in Australia," Medical Journal of Australia, Volume I., 1953, page 887.

Tonge, J. I. (with Inglis, J. A. and Derrick, E. H.): "Regional Non-bacterial Suppurative Lymphadenitis and its Relation to 'Cat-scratch Disease,'" (in press).

Tonge, J. I. and Brown, H. E. (with Derrick, E. H. and Berry, A. H.): "Fevers of the Mackay District, Queensland," (in press).

GOVERNMENT CHEMICAL LABORATORY.

Government Analyst and Chief Inspector of Explosives: S. B. Watkins, M.Sc., F.R.A.C.I.

Deputy Government Analyst and Inspector of Explosives: A. S. Hurwood, B.Sc., A.R.I.C., A.R.A.C.I.

The following table details the total of samples examined for this and the previous nine years:—

TABLE CVII.

Year.	Total Samples.
1942–43	10,859
1943–44	14,105
1944–45	15,434
1945–46	11,875
1946–47	12,834
1947–48	13,629
1948–49	17,564
1949–50	18,840
1950–51	14,137
1951–52	15,675
1952–53	26,014

It will be seen that the number of samples examined last year is a record since the laboratory was established.

Records may be gratifying but their realization too frequently involves tedious routine under pressure, reduced opportunity for reading current journals and following contemporary developments in chemistry and industry, and curtailment of time devoted to more important problems. The record in question was due mainly to the necessity of checking large quantities of tobacco leaf for arsenic contamination. A temporary laboratory in charge of Mr. Dunstan, of the Food and Drug Section of the laboratory, was established at Mareeba for "on the spot" investigation. With the assistance of an Officer of the Agricultural Chemical Laboratory, and by working considerable overtime, a large number of samples of leaf were examined. In addition, large consignments of samples, air freighted to Brisbane, were examined here. All available staff was assigned to the work which also involved much overtime.

Table CVIII. indicates the number of samples submitted for examination by each authority:—

TABLE CVIII.

	Number Samples.
State—	
Health and Home Affairs	15,787
Police	343
Geological Survey Office	509
Mines	291
Irrigation and Water Supply	683
Portmaster (Explosives)	1,929
Local Government	413
Main Roads Commission	107
State Stores Board	499
Public Works	331
Tile Testing Station	658
Railways	28
Others	511
Commonwealth—	
Customs	1,856
Commerce and Agriculture	1,095
Others	187
Hospital Boards	268
Medical Profession	81
Public	438
	26,014

SECTION 1.

Staff.—A. S. HURWOOD, B.Sc., A.R.I.C., A.R.A.C.I., Deputy Government Analyst, Officer-in-Charge.

Table CIX. gives the number and source of the samples examined.

TABLE CIX.

Department.	No. of Samples.
Health and Home Affairs	14,971
Irrigation and Water Supply	679
Other Government Departments	440
Local Government	306
Public	206
Total	16,602

This number is by far an all time record for the section, due to a large number of tobacco leaf samples examined.

TABLE CX.

SUMMARY OF SAMPLES OF FOODS AND DRUGS EXAMINED FOR THE DEPARTMENT OF HEALTH AND HOME AFFAIRS

Nature of Sample.	No. of Samples.
Beverage or cordial	166
Bread	42
Cereal	81
Condiment	13
Disinfectant	58
Drug or Medicine	104
Essence	5
Fish	26
Flock or fibre	67
Fruit or fruit juice	32
Jam or jelly	21
Meat	29
Milk—Official	1,934
Milk—unofficial	377
Milk product	33
Paint	254
Spirituous liquor	70
Tobacco	11,196
Toy	10
Vegetable	34
Miscellaneous	210
Total	14,762

The miscellaneous samples include confectionery, oils, fats, cooking preparations and toilet preparations.

Details of legal samples taken by inspectors in accordance with the provisions of *"The Health Acts,* 1937 *to* 1949," are shown in Table CXI.

The miscellaneous samples include morphine tablets, waste beer, insecticides and cattle dip.

Table CXII. shows details of legal samples of milk submitted for analysis.

TABLE CXI.

Nature of Sample.	Number Examined.	Passed.	Failed.
Milk	1,934	1,660	274
Paint	112	45	67
Spirituous Liquor	50	7	43
Fibre or Flock	26	16	10
Minced Meat	17	6	11
Malted Milk	8	3	5
Summer Drinks	4	2	2
Brown Bread	3	1	2
Miscellaneous	8	1	7
	2,162	1,741	421

TABLE CXII.

DETAILS OF LEGAL SAMPLES OF MILK.

District.	Number of Samples.	Passed the Standard.	Below the Standard in Fat.	Below the Standard in Total Solids and/or Solids not Fat Only.	Number of Watered Samples.	Proportion of Watered Samples per cent.	Average Proportion of Added Water per cent.
Greater Brisbane	813	706	63	38	6	0·74	14·8
Beaudesert ..	39	34	1	4	..	..	..
Bundaberg ..	9	8	..	..	1	11·0	10·0
Cairns	158	147	6	5	..	..	..
Charleville ..	10	8	1	..	1	10·0	11·0
Gatton	25	21	3	1	..	..	..
Gladstone ..	28	16	2	2	8	28·6	8·3
Hughenden ..	9	6	3	..	..	..	..
Ingham	8	5	3	..	..	..	..
Innisfail	21	14	2	4	1	4·8	18·0
Ipswich	180	159	16	..	5	2·8	9·6
Kingaroy ..	29	26	1	1	1	3·4	2·0
Longreach ..	18	4	11	..	3	16·6	12·0
Mackay	44	33	8	2	1	2·3	5·0
Maryborough ..	33	30	3	..	..	..	..
Nambour ..	97	81	2	2	12	12·5	11·2
Redcliffe	76	75	1	..	..	..	..
Rockhampton ..	103	84	13	..	6	5·8	16·3
Roma	13	13	..	..	..	..	..
South Coast ..	37	36	1	..	..	..	..
Toowoomba ..	106	102	3	..	1	0·9	4·0
Townsville ..	50	32	6	7	5	10·0	4·0
Warwick	28	20	3	1	4	14·3	5·0
	1,934	1,660	152	67	55	2·8	10·2

TABLE CXIII.

(SUMMARY OF TABLE CXII).

	Percentage of total number of Samples.
Samples adulterated with water ..	2·84
Samples deficient in fat but not watered	7·85
Samples below the standard in total solids and/or solids not fat only ..	3·46
Samples which passed the standard ..	85·85
	100·00

TABLE CXIV.

MILK SAMPLES TAKEN IN GREATER BRISBANE.

Year.	Number of Samples.	Proportion of Total Samples.	Proportion Adulterated with Water.
		Per cent.	Per cent.
1945–46	1,411	66·7	1·1
1946–47	1,358	62·7	2·2
1947–48	1,261	55·2	1·6
1948–49	1,221	49·3	1·7
1949–50	1,154	53·0	1·7
1950–51	732	43·2	6·5
1951–52	878	41·8	4·3
1952–53	813	42·1	0·7

TABLE CXV.

SHOWING THE AVERAGE FAT CONTENT OF THE LEGAL SAMPLES OF MILK IN WINTER AND SUMMER IN TOWN AND COUNTRY.

Number of Samples.	Greater Brisbane or Country.	Season.	Months.	Average Fat Content.
				Per cent
1,934 ..	Both	Overall	January-December ..	3·90
425 ..	Brisbane	Summer	October-March	3·80
503 ..	Country	ditto	ditto	3·74
928 ..	Both	ditto	ditto	3·77
244 ..	Brisbane	Winter	July-September	3·91
324 ..	Country	ditto	ditto	3·97
568 ..	Both	ditto	ditto	3·95
144 ..	Brisbane	ditto	April-June	4·06
294 ..	Country	ditto	ditto	4·16
438 ..	Both	ditto	ditto	4·12

NOTE :—" Country " in this table means outside the Greater Brisbane Area.

TABLE CXVI.

MILK POSITION COMPARED WITH PREVIOUS YEARS.

Year.	Number of Legal Samples.	Percentage showing Deficiency in Fat.	Percentage Below the standard in Total Solids and/or Solids not Fat only.	Percentage of Watered Samples.	Added Water (Average amount per cent.)
1945–46	2,116	3·2	11·7	4·0	8·0
1946–47	2,166	2·4	17·7	4·4	10·0
1947–48	2,283	1·8	7·4	2·5	10·0
1948–49	2,476	9·4	4·0	4·3	10·0
1949–50	2,179	9·6	3·5	3·1	9·0
1950–51	1,695	9·7	2·7	8·7	8·5
1951–52	2,100	13·7	9·6	8·0	9·5
1952–53	1,934	7·8	3·5	2·8	10·2

High Standard of Foods and Drugs.

It is largely the lines of doubtful purity that are submitted by the Health Inspector for examination and the normal good quality lines are seldom sampled. These doubtful lines constitute an infinitesimal proportion only of the total foods and drugs consumed.

The vast majority of the foods and drugs marketed in Queensland are in sound, clean condition and conform with rigid standards regarding purity.

Milk.

The quality of the milk supply showed a distinct improvement on recent years.

The various brands of pasteurised milk, including the milk issued to schools under the free milk scheme, were regularly examined with satisfactory results.

The following observations are made from a survey of Tables CXII. to CXVI.:—

Of the official milk samples examined, 42·1 per cent. came from the Greater Brisbane area and 59·9 per cent. from the rest of Queensland.

The proportion of milks adulterated with water was 0·74 per cent. in Greater Brisbane and 4·37 per cent. in the country.

Naturally poor milks and milks deficient in fat showed a marked improvement on last year due to good pastoral conditions throughout the State over most of the year.

The average fat content of all the legal milks examined was 3·9 per cent. as compared with 3·75 per cent. last year.

There was practically no difference between the average fat content of Brisbane milk and country milk.

The overall percentage of watered samples was 2·84 per cent., one of the lowest on record, due to the plentiful supply of milk.

The average proportion of water added to milk by the dishonest dealer keeps consistently around the 10 per cent. mark.

The proportion of watered samples of milk from the Greater Brisbane area was 0·74 per cent., which was the lowest on record due largely to good seasons and to the ever increasing use of bottled pasteurised milk.

The highest incidence of watered milk was in the country centres of Gladstone, Longreach and Warwick.

Eight samples of canned milk products, including concentrated milk, sweetened condensed milk and cream were examined for lead content. The containers were both snap end cans and open top cans, and all showed some slight exposure of lead solder, either on the inside seam or on the punctured lid. The pick-up of lead was negligible in the several products and varied from 0·02 to 0·21 parts per million.

Five powders, described as malted milk, contained less than the prescribed minimum of 7·5 per cent. milk fat and also contained starch in contravention of the Regulations.

Bread.

No quality survey of Brisbane bread was made during the year. Bread quality is largely dependent on flour quality, which has been uniformly good in Queensland for a long time.

Most of the bread examined was of fair average quality and the number of complaint samples received was not high.

Eight samples of fruit loaves were examined, and all failed to attain the prescribed minimum of 2·5 ounces of sultanas, raisins or currants to the pound. The fruit content of the loaves varied from 0·3 to 2·1 ounces to the pound, the average figure being 1·1 ounces to the pound.

Most of the wholemeal, and brown breads examined contained the requisite proportion of wholemeal, although a few failed to attain the prescribed minima of 80 per cent. and 60 per cent. wholemeal respectively.

Flour.

The quality of flour milled in Queensland was consistently good. Its protein content varied from 11·6 to 13·0 per cent.

Quality certificates were issued on flour exported to Eastern ports and 18 inspections were made by officers of the section, at mill, wharf, or railway siding, and 47 samples in all were examined for this purpose.

Meat.

Butchers still persist in adding chemical preservative to minced meat in contravention of the Regulations.

Minced meat is an invalid foodstuff, and under the Regulations, must be sold free from preservative.

Of the 17 legal samples submitted for analysis, 11 contained the preservative substance, sulphur dioxide, in variable proportions up to 16½ grains to the pound.

Aerated Drinks and Cordials.

One hundred and sixty-six samples of aerated drinks and cordials of all kinds, from metropolitan and country centres were examined.

A number failed to conform with prescribed standards, either in composition or in labelling requirements. The chief faults noted were fruit juice deficiencies in fruit drinks and fruit juice cordials, and the non-declaration of artificial colour and preservatives on some of the labels.

All the aerated fruit drinks and fruit juice cordials on the market are deficient in Vitamin C, and should not be regarded as suitable substitutes for fresh fruit.

Spirituous Liquors.

Hotel stocks of spirituous liquors are regularly examined by Health Inspectors, on the bar counter, using a Sikes Hydrometer to record spirit strength, and doubtful samples are forwarded under seal to a State Analyst for further examination. Of 50 such samples received during the year, 43 failed to conform with official requirements.

Thirty-three samples were adulterated with water, the highest adulteration being 29·6 per cent. added water in a sample of gin. The average adulteration with added water was 9 per cent., equivalent to 2⅓ ounces of excess water in a 26 ounce bottle.

Ten samples examined consisted of draught rum in proprietary line bottles, an offence all too common in the trade.

Pale coloured samples of the liqueurs Creme de Menthe and Apricot Brandy were shown to be free of added water and the pale colours due to the nature of the dyestuffs, on exposure to bright light.

Spray Residues on Fruits and Vegetables.

Most of the fruits and vegetables marketed were in clean, sound condition, free or reasonably free of spray residues. Only four complaint samples were received—

A cauliflower showing the presence of parathion;

A lettuce heavily plastered with lime;

A number of apples from a Southern State containing arsenic at an average rate of 1/25 grain per pound, or four times the maximum proportion tolerated;

A batch of potatoes heavily dusted with D.D.T. and containing this insecticide at the rate of 1/25 grain to the pound.

Spray and dust application to food crops should be kept at an absolute minimum, the number of applications reduced as harvest approaches, and no applications should be made to mature crops, which are ready or almost ready to be harvested. By harvest time, residues left early in the season have usually been reduced by weathering to a safe level.

Coffee and Chicory Essence.

Six samples examined contained less than the prescribed minimum of 0·25 per cent. caffeine, the proportions varying from 0·12 to 0·2 per cent.

Some manufacturers claim that it is difficult to attain the standard with the coffee bean now available.

The standard was not based on Java coffee bean with its high caffeine content around 1·8 per cent., but on the average bean containing from 1·1 to 1·3 per cent. caffeine. There was no difficulty in obtaining this standard in pre-war years.

The caffeine content of the average bean has not changed, as shown by an examination of Mocha, Kenya, Santos and other varieties of coffee bean during the year. The standard can be readily obtained by using three pounds of coffee bean to the gallon of essence and not two pounds to the gallon, as is said to be common practice to-day.

Lowering of the standard is not favoured, and it would appear advisable to increase slightly the cost of the essence rather than decrease considerably the quality of the product.

The Chlorophyll Craze.

The chlorophyll craze still continues, no doubt led by manufacturers for sales purposes.

A number of tooth pastes and toilet soaps, claiming the presence of chlorophyll, was examined and contained negligible traces only of this substance.

The latest chlorophyll claims come from the dry cleaning industry. Certain firms advertise the use of chlorophyll, and extravagant claims are made as to its wonderful value in deodorising and giving clothes lasting freshness.

Chlorophyll has no magical healing, deodorising or cleansing value, and in the small proportions present in pills, toothpastes, mouth washes, soaps and the like, does not enhance to any significant extent the therapeutic value of the product.

The position as regards chlorophyll was well summarized in a recent address by Dr. A. H. Corwin, of the John Hopkins University, America, who stated *inter alia* that "Chlorophyll is indispensable to photo-synthesis. It is found to be highly aesthetic in colouring the vistas visible from hills and mountains. It furnishes chemists, physiologists and other scientists with a lot of good clean fun. For other purposes, we are not certain that it has any value."

Modern Detergents.

Twenty-two different brands were examined representing most of the solid and liquid detergent preparations on the market. They nearly all had detergent values greater than ordinary soaps, and with the exception of two poor quality preparations, were accepted as approved detergent substances under *The Cafe Regulations of 1952*. These preparations owe their value to the presence of synthetic organic detergent substances present in variable proportions, usually from 7 to 17 per cent. Nine of the samples contained the sodium salt of a sulphated higher alcohol, eight contained the sodium salt of a sulphonated alkyl aryl compound, two contained poly-ethylene glycol and the remaining three samples contained methyl cellulose, a quaternary ammonium compound, and urea respectively.

These modern detergent substances are rapidly replacing soap both in the home and in the factory, and on existing evidence, there is nothing to indicate that, when used in the proportions recommended, they are other than dermatologically innocuous.

Tobacco.

An examination in the early part of the year indicated excessive spraying of the tobacco leaf with lead arsenate and resulted in an intensive sampling of the marketed leaf from which 10,957 samples were submitted for examination.

The total resources of the section were strained to capacity to take this extra work, and assistance was given, and gratefully acknowledged, from other sections of the laboratory.

Some of the leaf contained up to 20 grains to the pound of lead arsenate and was condemned as unsuitable for use in the manufacture of smoking tobacco.

This intensive sampling and examination of the leaf showed that some farmers were spraying their crops excessively and the position was soon remedied.

Spraying tobacco plants with lead arsenate to control insect pests is common practice in the world to-day. Such spraying is admirably suited for the purpose, from an entomological angle, but it must be kept at a level low enough to eliminate any possibility of a health hazard in the manufactured tobacco.

Most of the Australian and overseas brands of cigarettes and prepared tobacco on the market, comprising in all 136 samples, were examined for arsenic content.

A further 103 samples of contraband cigarettes and smoking tobacco from the Queen's Warehouse were examined for condition and suitability for sale.

Bedding and Upholstery Filling Material.

Of sixty-seven samples of flock and fibre examined, 26 samples failed to comply in one respect or more with *The Bedding and Upholstery Regulations of 1948*, which prescribe the following limits:

150 parts per 100,000 of chlorine present as chloride;
6 parts per 100,000 free and saline ammonia;
30 parts per 100,000 of turbidity in wash water obtained by a specific washing test.

Brisbane and South Coast Hospitals Board.

A large volume of work was done for this Board. The Brisbane General Hospital manufactures its own soap for laundry purposes, and during the year, 84 samples of soap were submitted for examination. The product was good quality "home-made" soap, reasonably uniform in composition and containing on an average 25 per cent. anhydrous soap.

Twenty-six samples of tablets of different kinds were examined against British Pharmacopoeia standards.

A large and valuable consignment of opium concentrate, containing 12·4 per cent. anhydrous morphine, and contained in tins, started to ferment, causing the tins to burst with subsequent loss through frothing. After examination, advice was given as to its utilisation, and it was converted without loss into the alcoholic tincture of opium.

Following complaints from the patients, samples of bread rolls and sausages were examined for composition and quality.

Six analysts from the laboratory assisted one week end in a check of the drug stocks at the Institution.

Department of Health, Port Moresby.

The work for this Department is steadily increasing.

Samples of canned fish, filter sand, drinking water, paint and water for injection were submitted for examination and report during the year.

Miscellaneous.

A specimen submitted as suspected ambergris, showed the characteristics of adipocere, a substance formed from human fat on decomposition, and not infrequently found on beaches after periods of war.

The milky appearance of the liquid in a complaint sample of bottled oysters was due to the oyster being in a spawning condition. In this condition, the white gonad portion is fluid and "bleeds" if punctured. The oysters were fit for human consumption and are preferred by many in this condition.

A sample of contraband material, submitted from the Queen's Warehouse as dried mushrooms, was the edible fungus Lentinus Edodes (syn. Cortinellus Edodes), known in Japan as "Shutake". Pre-war production in Japan was in excess of 2 million kilograms annually.

The various brands of margarine on the market were examined with satisfactory results. The table margarines were all fortified with Vitamins A and D and were of vegetable fat origin. The cooking margarines examined were of animal fat origin.

Seven brands of strawberry jam examined varied widely in quality and fruit content, and three of the samples contained less than the proposed minimum of 40 per cent. fruit.

Coloured pencils were examined for lead, and out of 82 samples submitted, 37 contained lead compounds, either on the surface paint or in the coloured centre piece of the pencil. The green and yellow colours were chiefly at fault, due to the presence of lead chromate as the colouring agent.

Two samples of soda water said to have caused vomiting were examined. One was contaminated with zinc and the other with both copper and zinc, acquired from contact with galvanised iron tubes and brass tubes respectively.

Zinc was present in the first sample at the rate of 56 parts per million, and the second sample contained 25 parts per million copper and 5 parts per million of zinc.

The seven different brands of tea examined conformed with the prescribed standard. Three of the samples were below average quality due to the presence of too much fine leaf; six to seven per cent. passing through a 25-mesh sieve.

An investigation was made into the use of urea-formaldehyde resin bonded plywood for commodity cases for foodstuffs and no significant formaldehyde contamination was detected in foodstuffs stored in such cases under 'severe conditions.

Six samples of cotton-nylon covered, rubber lined fire hose were examined for mildew and advice given on the mould proofing of the hose.

Samples of canned crab were again received from the public with complaints of glass contamination. Fine sharp transparent glistening glass-like spicules of magnesium ammonium phosphate (Struvite) were present, and this phenomenon, which was once rare, is now of common occurence.

The crystals are formed from substances naturally present in the crab, and, apart from possible damage to the mouth on mastication of occasional outsize crystals, are harmless to health.

One hundred and four samples of drugs and medicines were examined.

A number of medicines associated with complaints from the public was checked for accuracy of dispensing and no serious errors found.

A proprietary line of phenobarbitone gr. ¼ tablets was misdescribed as malonal tablets. Malonal is the synonym for barbitone, a much less potent drug.

Samples of foods and drugs examined for Government Departments, other than the Department of Health and Home Affairs, numbered 182, and 33 samples were submitted direct from the public.

Waters.

An increase of 352 submissions over last year's figure brought the total of water samples for the year to 1,625, the highest total to date. It was necessary to assign three analysts to this work during the year.

The following table details the number of samples received from the various authorities:—

TABLE CXVII.

Health and Home Affairs	209
Irrigation and Water Supply	679
Local Government	306
Miscellaneous Government Departments including the Commonwealth	258
Public	173
Total	1,625

Following flood rains over the Brisbane River catchment, two samples of water taken on 25th March, 1953, at the Port Office, Brisbane, one from the surface and the other from the bottom of the river, after removal of suspended solids, analysed as follows:—

Grains per Gallon.	Surface.	Bottom.
Total Solids	10·0	8·0
Calcium Sulphate	1·0	0·7
Calcium Carbonate	2·4	1·8
Magnesium Carbonate	0·2	0·2
Sodium Chloride	6·2	4·9
Hardness	3·3	2·6

By way of comparison, the following figures indicate the approximate composition of Brisbane River water at the Port Office under average conditions:—

Sodium Chloride—grains per gallon	1,000
Hardness	200

A sample of water from the Innot Hot Springs, in connection with its possible use as a mineral water, disclosed the following composition:—

Totals Solids—grains per gallon	35·6
Calcium Sulphate—grains per gallon	2·0
Sodium Sulphate—grains per gallon	1·0
Sodium Carbonate—grains per gallon	11·8
Sodium Chloride—grains per gallon	18·4
Iron Oxide—grains per gallon	1·1
Hardness	1·5
Fluorine—parts per million	16·0
pH	7·6

The high fluorine content renders the water unfit for human consumption.

A tank water which had caused sickness was found to contain 21·4 parts per million of zinc, while a red sludge from the bottom of the tank contained 54·7 per cent. of zinc. The red sludge had come from the painted roof, and had no doubt originated by the paint in peeling, dragging with it the zinc coating of the galvanised iron.

SECTION 2.

TOXICOLOGY, BIO-CHEMISTRY AND INDUSTRIAL HYGIENE.

I. L. B. HENDERSON, B.Sc., Officer-in-Charge.

The total number of specimens submitted for examination by this section was 1,442.

POLICE DEPARTMENT.

Specimens submitted by this Department during the year numbered 323, of which 213 were in connection with 68 post-mortem examinations.

Poisons found included barbiturate (11), arsenic (6), strychnine (6), aspirin (3), cyanide (2), chloral (1), nicotine (1), zinc chloride (1), potassium bromate (1), and parathion (1).

The remaining 35 post-mortem examinations did not disclose any poison.

The use of large doses of aspirin for suicidal purposes appears to be increasing. Although popular for this purpose overseas, hitherto aspirin has been little used in Queensland.

The first death from parathion poisoning is also recorded. The use of this highly toxic organic phosphate type insecticide is becoming widespread in small-crop farming districts and even in home gardens, and the utmost care should be exercised in handling it.

A number of animal poisonings were also investigated.

Other specimens examined for this Department included blood, urine, stomach washings, foodstuffs, drugs, anaesthetics, &c.

BIO-CHEMISTRY.

The nature, significance and number of specimens submitted by the laboratory of Micro-Biology and Pathology, the Government

Medical Officer, Hospitals and Medical Practitioners are shown in the following table:—

TABLE CXVIII.

Nature of Specimen and Significance.	Number of Specimens.
Blood and/or Urine for alcohol, ether or other drugs	433
Urine for lead, mercury, &c.	186
Bone for lead	87
Hair, nail and urine for arsenic	71
Miscellaneous	74
Total	851

The miscellaneous specimens included stomach washings, blood, urine, drugs, &c.

A large proportion of the alcohol determinations in blood and urine were for the Government Medical Officer in connection with drunken driving charges.

The analyses of human bone for lead content represent a further series for the Queensland Institute of Medical Research in the investigation as to the cause of the abnormal incidence of chronic nephritis in Queensland.

Industrial Hygiene.

Excluding biochemical specimens, the number of samples examined totalled 268, as shown in the following table:—

TABLE CXIX.

Dust	181
Air and gas	73
Miscellaneous	14
Total	268

Technical assistance given the Director of Industrial Hygiene included the following:—

(1) A further survey of dust and ventilation in a colliery at Box Flat No. 6, Ipswich.

(2) An extensive dust survey during bulk loading of wheat for shipment overseas.

(3) Ventilation tests of a number of city retail stores; also of two rooms for the P.M.G.

(4) Investigation of possible dust hazard at a fertilizer works and a mineral grinding plant.

Section 3.

Mining, Mineralogy, Metallurgy and Explosives.

V. R. CUNDITH, B.Sc., A.R.A.C.I. A.M.Aus. I.M.M., Officer-in-charge.

Samples examined—3,868

The table shows the sources of work done by this Section and the number of samples from each:—

TABLE CXX.

Department.	Number of Samples.
Geological Survey and Mines Department	762
Portmaster (Explosives)	1,886
Other Departments	1,022
Public	198
	3,868

Mines Department and Geological Survey.

The types of samples from these departments generally conform with those of previous years. These types include ores, for the determination of gold, silver, copper, lead, zinc, manganese, tin cobalt and tungsten, together with supplementary work involved with cyanidation and amalgamation tests.

A sample of magnetic tin oxide, containing 40·6 per cent. tin (metal) was received from the Government Geologist. It was found to be rather refractory in opening up for analysis by reason of its high proportion of chemically contained iron oxide.

An unusual copper ore from Bloomsbury had a lamellar arrangement of chalcocite with sphalerite. It assayed copper 53·4 per cent., zinc 13·1 per cent.

Some of the manganese ores received contained appreciable proportions of cobalt to the order of 2-3 per cent.

There were 19 clays submitted for firing tests and reports were issued covering their suitability for fire and building bricks, tiles and pottery ware.

The coal and coke work for the Government Geologist (240 samples) and State Coal Board (250 samples) continues to maintain pressure.

Laboratory washability tests were made on a number of Ipswich and Rosewood coals.

Calorific value, approximate and ultimate analyses, fusion point of ash, specific gravity, and agglutination tests are the usual requirements with the submission of most of the samples received from the various coal fields of the State.

Some were examined to determine agreement with specification requirements.

Callide coal being loaded for Pakistan was sampled.

Several bore gas samples from Roma were examined in consequence of drilling and seismic work undertaken by the Associated Australian Oilfields, N. L.

The analyses of mine air samples taken during sealing operations at a coal mine enabled the management to guage ventilation requirements while work was being done and determine efficiency of the stoppings.

Other Departments.

The consultative and analytical work from Government Departments covered a range of industrial products, solder, concrete, fibrocement, detergent, gasket cement, building stone, glass, boiler scales, tiles, bricks, salt rubber bearings, safety matches (accidental ignition of a carton packing) and Golden Casket discs.

The colouring matter of 658 concrete tiles submitted for test conformed with the specification. The use of coloured lacquers, containing synthetic resins and tung oil, continues to extend.

In regard to pigments, mineral oxides such as red, yellow, brown and black oxides of iron, chromic oxide as well as ultramarine are the usual.

One blue pigment applied to a tile was found to be a very resistant and stable colour, manganese blue.

The pigment is probably made by calcining a mixture of sodium sulphate, potassium permanganate and barium nitrate.

The absorption of this colour on a large excess of barium sulphate produces manganese blue (permanent blue) and careful control would be required to produce a standard composition.

Although not exceeding 0·5 per cent. water solubles, and thus conforming with the Australian standard specification for colour pigments for use with Portland cement, the colour yields sufficient water soluble maganese and barium salts as to render water in contact with it toxic.

In view of the likely variability in the compositions of the pigment, of the toxic nature of the water solubles and of incomplete leaching of soluble constituents during the curing of the tiles, the use of the pigment for concrete roofing tiles as catchments for domestic rain water supplies was not advised.

The partial deterioration of the sandstone parapet and cornice of Parliament House was found to be due to the physical and chemical changes associated with the entry of moisture and soluble salts derived from city smoke.

The evidence in some small disrupted areas indicated the possibility of lichen growth being also a contributing factor.

Advice was tendered in respect of repair and cleaning of the stone.

The severe corrosion shown on the cylinders of a motor car engine was found to be due to the use of petrol contaminated with carbon tetrachloride, which would produce hydrochloric acid, together with other toxic compounds on ignition of the petrol.

Some building bricks showed the stainings of vanadium salts formed in the brick during the firing process. When the wetted surfaces of the brick dry out, the efflorescence of soluble vanadate subsequently turns a greenish yellow rusty colour.

The affected bricks, when placed in water to a depth of a few inches, develop a colour creep and the water leaching acquires a yellow tint.

WATER.

The loss of efficiency of soap solutions for use as foaming agents in fire fighting equipment was shown to be due to variations in hardness of the water supply on some Queensland aerodromes. The alternative would be an increase of soap content to offset that lost to the formation of hard soap.

The risk of destruction of electric heating elements in hot water installations with the use of hard water appears to escape attention. The deposition of hard salts forms a hard insulating layer on the copper sheath and leads to overheating and destruction of the element.

In one instance, the deposition of green coloured encrusting salts on a vat and heating element sheath was found to be due to interaction of extractives from wood treated against Lyctus borer with hard salts in the water.

The vat had been painted with a rust proofing paint with an iron oxide based pigment, and the green colour was due to the interaction of wood extractives with iron compounds.

There was insufficient copper in the deposit to indicate abnormal corrosive conditions to the sheath, the risk again being the build-up of encrusting scale.

Visits to ships and examination of chemicals to determine inherent risk in the handling thereof by waterside workers were made.

Cylinders containing gases, such as carbon dioxide under pressure, have been found to be empty on arrival from some Western Queensland centres.

Direct exposure to sun causes excessive pressures to develop in charged cylinders, resulting in the bursting of the safety disc and release of the gas.

The efficiency of some hot air ovens was determined by means of thermocouples.

INFLAMMABLE LIQUIDS AND GAS.

The usual service was provided in the examination of tankers, tanker wagons and oil containers to determine the presence of toxic or dangerous proportions of inflammable gas, prior to entry for cleaning and repairs.

Calibrating tanks with water, which has been pumped through unsteamed pipelines to a "gas freed" tank, is productive of trouble in the event of welding work being done.

Another hazard is the use of double bulk heads in road wagons. A leakage of petrol into the narrow section, makes "gas freeing" difficult and welding operations involving the bulk heads very dangerous.

Fortunately, the single wall partition is more in general use.

A section of a shop, in which an explosion had occurred, was inspected. The explosion was due to an escape of methyl chloride from the cylinder valve, and the source of ignition of the air gas mixture a welding torch used during repair work to the refrigerator.

EXPLOSIVES.

Samples examined—1,886.

The following table details the type, source and the quantity of explosives imported into

Queensland for the year ended 30th June, 1953:—

TABLE CXXI.

Type.	Australian.	Overseas.
	Cases.	Cases.
A.N. Gelatine Dynamite "75"	283	..
60% Gelignite S.N.	876	..
A.N. Gelignite "60"	44,745	..
Geophex	14,359	..
Plastergel	1,951	..
Polar Quarigel	480	..
Ajax	21,746	..
Semigel	4,875	..
Quarry Monobel	2,147	..
40% Ligdyn S.N	981	..
Monograin	3,193	..
Blasting Powder	600	..
	96,236	..
No. 6 Detonators	2,050,000	..
Electric Detonators No. 6 x 54″	90,000	..
Electric Detonators No. 6 x 72″	830,000	..
Electric Detonators No. 6 x 96″	8,000	..
Electric Detonators No. 6 x 120″	20,000	..
Electric Detonators No. 6 x 144″	15,000	..
Electric Detonators No. 6 x 240″	1,500	..
Electric Detonators No. 8 x 72″ Submarine	5,750	..
Gasless Delay Detonators No. 6 x 120″	..	35,000
Gasless Delay Detonators No. 6 x 144″	..	33,750
Short Delay Detonators No. 6 x 84″	..	70,400
Short Delay Detonators No. 6 x 144″	..	8,400
Safety Fuse	Feet. 3,312,000	
Plastic Cordtex	..	Feet. 435,000

Condemned Explosives.

Twenty-nine cases of defective explosives were destroyed during the year. Included in this total are thirteen cases from various retail magazines.

Fees were collected for the following licences issued for the storage of explosives:—

Bulk Magazine	12
Retail Magazine	203
Fireworks Magazine	17

Inspection of Explosives and Magazines.

Inspections of explosives and magazines under *The Explosives Act and Regulations, 1906,* were carried out at:—

Brisbane
Stanthorpe
Beenleigh
Glen Aplin
Warwick
Allora
Toowoomba
Crow's Nest
Gatton
Lawes
Laidley
Ipswich
Rockhampton
Mt. Larcom
Gladstone
Calliope
Miriam Vale
Bundaberg
Childers
Maryborough
Tiaro
Gympie
Amamoor
Imbil
Boonah
Harrisville
Beaudesert
Beerwah
Strathpine
Caboolture
Woodford
Kilcoy
Elimbah
Glasshouse Mts.
Beerburrum
Landsborough
Maleny
Woombye
Palmwoods
Nambour
Yandina
Eumundi
Cooroy
Pomona
Noosa
Kenilworth
Roma
Queerah
Brookhill
Bajool
Dakabin

An inspector of explosives was in attendance at fireworks displays at the R.N.A. Grounds during Exhibition week and on Coronation night.

The term "fireworks" comprises firework composition and manufactured fireworks and this designation qualifies Class 7 in the Regulations.

A licence is not required for the storage of "shop goods" fireworks, not exceeding 500 lb. in weight, yet it is incumbent on the storekeeper to observe safety precautions.

It is a contravention of the Act to display fireworks in shop windows or within easy access to the public.

The stock should be kept in covered spark proof receptacles or displayed in glass cabinets or glass covered compartments, to which only the shopkeeper or assistants have direct access.

Bengal matches should be stored apart, and fireworks should not be stored less than 30 feet from inflammables, such as white spirit, methylated spirits, turpentine, linseed oil, &c.

Over 60 shops were inspected during the year and many proprietors were unaware of these provisions of the Act, despite relevant sections of the Act being featured on application forms and licences.

The above itinerary shows a number of towns in the southern and central division which have been visited.

The many breaches noted have either been due to ignorance or accident rather than a studied intention to flout the Regulations.

As inspections can now be made with regularity, the difficulty of policing the Act and Regulations in coastal and country towns is being considerably eased, and there are now better prospects that the requirements effecting storage, sale, transport, &c. of explosives will be appreciated as essential in the interests of the community.

Accidents—Fireworks.

A boy, searching the neighbourhood for unexploded fireworks following Guy Fawkes night, found a container filled with a home-made fireworks composition of a sensitive and highly dangerous nature.

Subsequently, the boy was seriously injured by the explosion, which drove the metal container into his leg.

On further investigation, a quantity of home-made fireworks was seized.

Once more it is necessary to emphasise the danger which arises when persons, including school boys, engage in the manufacture of home-made fireworks.

Such practice is illegal.

Section 4.

Federal Departments, State Stores, Main Roads, Public Works, &c.

J. ADAMSON, A.R.A.C.I., Senior Analyst, Officer-in-Charge.

The total number of samples examined by this section was 4,102, a decrease of 707 compared with the previous year's figures. This decrease was mainly attributed to a falling off in samples from the Customs Department due to import licensing.

The following table details the samples examined by this section:—

TABLE CXXII.

Customs	1,852
Commerce and Agriculture	1,095
Public Works Department	466
State Stores Board	497
Main Roads Commission	100
Explosives (Fireworks)	43
Railways	21
Public	28
	4,102

The greater proportion of the work of this section is carried out on behalf of the Federal Customs Department and the Department of Commerce and Agriculture, together with a small number of samples for the Royal Australian Navy.

The work for the Customs Department is mainly examination of materials with a view to classification for Tariff purposes. The Excise Department also submit a number of samples.

The work carried out for the Department of Commerce and Agriculture is of a varied nature and is concerned with the maintenance of export standards of Agricultural products.

The Public Works Department and the State Housing Commission submitted a large number of paints for examination. The quality of the paints was generally good and very few contained soluble lead pigments.

This system of control of paints for the above departments has resulted in the elimination of many inferior paints and has achieved a considerable improvement in paints used on Government buildings.

The State Stores Board again submitted a large number of samples, textiles, inks, detergents, cordials, &c. for examination and advice as to their suitability for general service use.

The Main Roads Commission also submitted a number of samples of bitumen, tar and bitumen emulsions for testing.

The examination of imported fireworks was again carried out by this section with very satisfactory results, no prohibited fireworks being found.

SECTION OF SOCIAL SERVICES.

Welfare Officer: Mrs V. Wills.

The duties of this Section cover many phases including weekly inspection of ten temporary housing areas, where thousands of persons live, and where there is need for constant vigilance to ensure a proper standard of hygiene. It is encouraging to note that people living in housing communities now realise the importance of hygiene. The last outbreak of gastro-enteritis proved that families in these areas were co-operative. There were fewer cases from the housing areas than anywhere else in Brisbane. There are, however, a few who need constant checking to see that scraps of food, unwashed milk bottles and soiled linen are not left lying around where flies are allowed to settle and spread disease. It is fully realised there are families who still have to be watched no matter where they live.

During inspections it was often observed that medical attention was needed by adults and children, and they were advised to seek medical care. In many cases the necessary appointments and transport were arranged.

When State rental houses are reported to the Commission as not being up to the correct standard of hygiene, the dwellings are inspected and families taught to realise its importance. More drastic action is advised where co-operation is not given, but fortunately this is only necessary in a few instances.

Complaints lodged at this office regarding neglected children are investigated and reported to the State Children Department and the Police Department immediately. Most of these complaints come from the temporary housing areas.

There have been many complaints of aged people with no one to care for them, living under bad conditions. Their admission to "Eventide," Sandgate, has been arranged, where they are cared for under correct conditions and in suitable surroundings.

Another feature of the work of this Section is in giving assistance to unmarried mothers and deserted wives and families, by providing layettes, accommodation and light employment while awaiting confinement. The adoption of the babies has in some cases also been arranged. Clothing, finance, furniture and bedding have been given to families in poor circumstances by the Social Welfare Section of the Department of Labour and Industry, the Brisbane City Mission and other personal contacts.

Early this year an ex-serviceman, his wife and their four children had their fares paid to return to their home in Victoria. The husband was always in and out of work and each time his wife had a baby he left his job and sought help. He appeared to be incapable of shouldering his own responsibilities and it was thought he might rehabilitate himself amongst his own relatives.

Appointments have been made for persons needing psychiatric treatment, and voluntary and private cases have also been taken to the Brisbane Mental Hospital. Patients have also been conveyed for shock treatment to the Brisbane General Hospital.

Assistance has also been given in regard to Commonwealth Social Service pensions and help has been offered in compiling and witnessing old age, invalid, widows' and war pensions, and child endowment allowances. Aid has been obtained through the Social Service for persons in straitened circumstances, pending approval of their respective pensions.

Domestic help has been obtained for families while the parents were ill, and assistance has been given to expectant mothers in their attendance at ante-natal clinics and in respect to medical examination of other children of the family at maternal and child welfare clinics. Admission of children to the maternal and child welfare homes during their mothers' confinements has also been arranged.

During the gastro-enteritis outbreak, specimens were collected for the Queensland Institute of Medical Research and reports made on the conditions of the homes to the Housing Commission.

Liaison is maintained with Her Majesty's Prison and every effort has been made to rehabilitate female prisoners on their discharge. Many a girl has been given financial help until she has obtained shelter and work.

The sick and the aged have been visited in their homes and in hospitals, and private business has been attended to at their request. Accommodation has been obtained for a large number of people through the Queensland Housing Commission which has always been sympathetic and co-operative to representations made to it.

There is close co-operation with the Section of Enthetic Diseases in assisting to locate female contacts. Hygiene inspections have been made of ladies' public conveniences situated in picture theatres, emporiums and public parks. Most of these conveniences are up to standard, but in one, the basins were in very bad repair, and action is being taken to correct this.

Applications from persons desiring to enter "Eventide" have been investigated to see if they would be suitable residents.

Accommodation has been obtained for the children of mothers suffering from poliomyelitis. Cases as far north as Maryborough have been helped in this way.

Assistance has been given in the recruitment of trainee nurses for the mental hospitals. Approximately 80 girls have been interviewed, and about 70 have been accepted.

LEGISLATION.

The only legislation enacted during the year was the promulgation of *The Barbers' Shops Regulations of 1952,* which replaced the Regulations of 1940, *The Cafe Regulations of 1952,* and an amendment of the Tuberculosis Regulations by adding the form of notification.

The Barbers' Shops Regulations of 1952, were published in the *Government Gazette* of 18th October, 1952. The principal differences were that Local Authorities are now required to enforce the Regulations, which was previously not the case, thus making possible more supervision of barbers' shops; and power is given for the removal of samples of disinfectant in use in such shops. This helps to prevent the use of very dilute, ineffective disinfectant solutions. Provision is also made for the medical examination of barbers suspected of suffering from any contagious skin disease and, where necessary, preventing such persons from carrying on this trade.

The Cafe Regulations of 1952, which appeared in the *Government Gazette* of 18th October, 1952, delegated to Local Authorities responsibility for the supervision of cafes from the sanitary point of view. It is considered that this should provide a higher standard of hygiene in these establishments.

APPENDIX A.

REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE.

The work of the Committee during the year has been concerned with field surveys, life history studies, identification of specimens and preparation of papers.

Identification of specimens has been undertaken for the following:—Department of Health and Home Affairs; Health Department, Townsville City Council; Brisbane City Council; Wild Life Survey Section, C.S.I.R.O.; Mr. S. H. Christian, Malaria Control Officer, Minj, via Lae, New Guinea; Medical Officer, Nauru; Surveyor-in-Charge, Malaria and Filariasis Control, Fiji. In addition, collections received for identification from several private individuals have added useful distribution records. Work on collections made in North Queensland in April-July, 1952, was completed.

A list of mosquitoes recorded from New Guinea was prepared for the Executive Officer for Health, South Pacific Commission. Specimens requested were sent to the British Museum (Natural History). Information on Queensland mosquitoes has been supplied to workers in other states and overseas.

Life histories of four Queensland species, previously known only from adult specimens, have been worked out; males of two of these were also obtained for the first time. During the Torres Strait survey, six species of mosquitoes not previously recorded from Queensland were collected, of which three appear to be new to science. In addition, further specimens and habitat notes have been obtained of several species which were inadequately known. Tentative keys to three groups of mosquitoes were prepared and circulated to other workers. A paper reviewing the *Aedes scutellaris* subgroup was completed, and a paper on Queensland species of *Aedes* (subgenus *Aedes*) is in preparation; co-authorship was undertaken of a paper on suspected mosquito vectors of Murray Valley Encephalitis.

The Committee's Graduate Research Assistant, Dr. E. N. Marks, took part in the Malaria–Filaria Survey of Torres Straits in April–May, 1953, under the leadership of Dr. M. J. Mackerras. Dr. Marks took charge of the Mosquito Survey in which assistance was received from Mr. R. Domrow, Mr. R. V. Miles and numerous islanders. A report of this survey follows. After the survey team had completed its work, Dr. Marks stayed some days longer at Bamaga for further study of the mosquitoes, and also spent a week collecting in the Coen district where invaluable assistance was received from Mr. J. L. Wassell. The co-operation of the Department of Native Affairs and hospitality and assistance received from its officers, the hospitality of Father and Mrs. Wynter, St. Pauls, Moa Island, and of Mr. and Mrs. J. L. Wassell, Coen, was greatly appreciated.

MALARIA—FILARIA SURVEY OF THE TORRES STRAITS—REPORT ON THE MOSQUITO SURVEY.
APRIL—MAY, 1953.

Collections were made on Thursday, Badu, Moa (St. Paul's, Gerain and Kubin villages), Boigu, Dauan and Saibai Islands, and in the Cowal Creek-Bamaga-Somerset area on Cape York Peninsula. The mosquito survey did not include any of the eastern islands but *Aedes scutellaris scutellaris* was collected by Dr. M. J. Mackerras on Murray Island (where it was not found in the 1952 survey) and on Yorke Island.

All mosquitoes recorded as biting were taken biting man. It should be emphasised that descriptions of breeding places apply to the time of the survey, and conditions would be very different in both wetter and drier periods of the year. Only the most numerous species, or those of public health interest, are listed here, and a general note on their importance is at the end of the report.

(1) THURSDAY ISLAND.

A brief check was made on some of the sites examined in the 1952 survey. Drainage works on the creek at Eagle Camp were in progress and the creek well stocked with fish. The lower portion of Neville's Gully was also well stocked with fish and it should be a simple matter to introduce them to the upper portion. Five species were collected.

Annopheles annulipes very scarce. Breeding in running creek in Neville's Gully upstream from the road crossing in the middle of the island. Immature larvae from a puddle in the swamp beside Eagle Camp creek were probably also this species.

Culex annulirostris breeding in the same puddle at Eagle Camp and in roadside pools fed from a spring near Neville's Gully.

Aedes culiciformis adults taken resting in a gully near the hospital.

Horn Island.—*Aedes tremula* adults were numerous in the laundry of a house beside the aerodrome and it appeared to be a household pest there. Insufficient time was available to locate the breeding place.

(2) BADU, MOA, AND MABUIAG ISLANDS.

These are hilly granite islands with broad valleys between the hills and numerous small streams. The lower parts of the valleys form sandy heath country with scattered teatree and pandanus, long grass and sedges. It was apparent that in the wet season much of this heath area would be swampy. There are many shallow depressions which might be filled by heavy rain through the year, some of which were still damp at the time of the survey. Through this heath country flow streams of varying size. On the hillsides or where the streams cross rock bars, they may form rock pools. The lower reaches of the streams are tidal, and in the larger ones, fringed with mangroves. Moa and Badu lie 20–30 miles North of Thursday Island and are separated by a strait about 2 miles wide. Mabuiag lies about 53 miles north of Thursday Island and 5 miles north of Badu.

Badu Island.—Area about 46 square miles. In the brief time available, the survey could cover only the vicinity of the school, hospital and village and did not include the main garden area which is some miles inland. The settlement is very scattered in an area extending almost 2 miles along the south-east shore of the Island and over one quarter-mile inland. A hill covered with rather dry vine scrub rises behind the school and hospital; a small stream flows besides the school house, another beside the hospital. The main settlement lies north of the hospital and is backed by heath flats, with a large swampy waterhole 3-4 acres in extent about one half-mile inland. The lower part of the flats had water lying in places along tracks and in natural depressions and man-made wells and soak-holes. Besides this at their rear, there was a series of shallow waterholes in a long depression between the houses and the beach. Mosquitoes were moderately numerous, biting at night near the hospital and near the village. Sixteen species were found on Badu.

Anopheles novaguinensis.—The only Anopheline taken biting near both hospital and village. Larvae in numerous shallow small shaded streams and pools on the heath flats.

Anopheles meraukensis.—Larvae scarce in the large swampy water-hole.

Aedes kochi.—Breeding in pandanus axils and biting occasionally in the bush.

Aedes notoscriptus.—Breeding in treeholes and biting in bush.

Aedes culiciformis.—The commonest species taken biting both in and out of doors.

Culex annulirostris.—Biting in bush; breeding in large waterhole, and in a pool in the depression behind the beach.

Moa Island.—Area about 64 square miles. The principal settlement is at St. Paul's on the north-east coast; there is a small village at Gerain on the north-west and a larger one at Kubin on the south-west coast. Nineteen species were collected on Moa.

St. Paul's.—The village extends about a mile along the shore and about 200 yards inland. In its northern half, back yards of houses on the inland side of the main street run down into a long, swampy somewhat polluted waterhole. There are a number of wells (no larvae were found in three examined) and at either end of the village, a small stream. A little further north is a larger stream, Bubu creek, with a series of rock pools, where household laundry is done; its lower reaches are mangrove fringed. Behind the village are gardens and a large flat and slopes of low hills covered with dense high grass. About one and a-half miles south of the village is another fairly large stream.

Anopheles meraukensis.—Breeding in leafy rock pools beside Bubu creek and taken biting nearby.

Anopheles bancrofti.—Biting near the village and breeding in large numbers in the swampy waterhole behind the village.

Aedes kochi.—Biting in bush. Larvae collected from wild ginger flowers.

Aedes culiciformis.—The commonest species biting.

Culex fatigans.—Adults taken indoors; breeding in large numbers in a small rock pool polluted with soapy water at Bubu creek.

Culex annulirostris.—Numerous biting in bush by day and night; larvae in polluted and unpolluted rock pools at Bubu creek, in swampy waterhole behind the village and in a small grassy pool beside the creek at the south end of the village.

Culex sitiens.—Breeding in a discarded dug-out canoe lying amongst mangroves.

Gerain.—The village is built along about 200 yards of beach. From a hill at its west end a small rocky watercourse descends, and at the foot of the hill a well in the rock provides the village with water. Above the well the watercourse was dry; no larvae were found in the well but in a rock pool beside it, used for household washing, *Anopheles farauti* was breeding. In a sandy pool in the watercourse, between the well and the beach, *Culex annulirostris* was breeding and *C. fatigans* larvae were found in a household water drum.

A wide dry watercourse with low banks runs parallel to the beach about 100 yards behind the village and reaches the sea east of the village. This is fringed with mangroves and the lower part is tidal. It appears that king tides would reach well up this watercourse and overflow the banks, covering quite a wide area, and when such a tide coincided with wet weather, there would be extensive areas of brackish water, ideally suited to breeding *Anopheles farauti.*

Aedes funereus was taken biting amongst the mangroves and *Aedes culiciformis* bit in large numbers in the bush further inland.

Kubin.—The village is built on top of a rocky point about 100 feet high. Water is obtained from three wells, two of which are at the foot of the hill, just above the beach. No mosquito breeding was detected in either of these. The third well, on west side of the village, on the slopes of the hill, is beside a small grassy watercourse apparently fed by a spring. In both well and watercourse *Culex annulirostris* was breeding.

Mabuiag Island.—Area about four square miles. The village extends west of the southernmost point of the island and is about one and a-half miles long. Small streams fed by springs run down the low hills immediately behind the village and in places form rock pools which are used for washing. There are also a number of wells. At west end of the village is a broad valley with heath flats and a couple of larger streams which are tidal and mangrove fringed near the beach. This is one of the main garden areas. There are other streams in the valleys further removed from the village. Tidal flats near the school probably have brackish pools at times after high tides. Five species were collected.

Anopheles novaguinensis.—Very scarce, no adults taken and only two larvae collected from shaded small streams in the interior of the island.

Aedes kochi.—Biting in the bush.

Aedes culiciformis.—The commonest species taken biting.

Culex annulirostris.—Biting near the village; breeding in wells, in open and shaded sandy and rocky pools behind the village, and in slightly brackish pools near the head of the tide in the stream just west and another some distance north-east of the village.

(3) BOIGU, SAIBAI, AND DAUAN ISLANDS.

These lie close to the New Guinea coast, the villages on Boigu and Saibai being about four miles distant from it. Boigu and Saibai are large flat islands rising only a few feet above high tide, and much of their area is occupied by open mud flats and sedge and mangrove swamps. Dauan is a smaller hilly granite island.

Boigu Island.—Area about 12 square miles. The village extends for about half-a-mile along the north shore. Elsewhere the coast is fringed with mangroves. Immediately behind the village is a grassy area which at this time had just dried out and was being tilled for gardens; beyond it, about a quarter of a mile from the village, is a large well about 12 yards in diameter, in which no mosquito breeding was detected. Further inland is a mangrove-fringed tidal creek and extensive mud flats partly covered by brackish pools, interspersed with stretches of sedge swamp. In the middle of the island are large mangrove (*Avicennia*) swamps, the water in which is brackish, up to 3 feet deep, and apparently little influenced by tides. Algal growth and fallen leaves amongst the aerial roots of the mangroves, cause the formation of many small, more or less isolated, areas of water which fish cannot reach. Eleven species were collected.

Anopheles farauti.—Large numbers biting in the village at dusk, fewer through the evening and some by day amongst mangroves. Larvae in sunlit, muddy, brackish pools and in deep shade in the mangrove swamp, both amongst roots and in more open water.

Anopheles amictus hilli.—Biting in the vicinity of the village but not nearly as numerous as *A. farauti.* Larvae in open brackish pools on mud flats.

Aedes aegypti.—Biting indoors.

Aedes funereus.—Biting by day in large numbers near the village.

Culex annulirostris.—Scarce biting at dusk.

Culex sitiens.—Breeding in the same sites as *A. farauti* and *A. amictus hilli* and also in footprints on the mud flats.

Saibai Island.—Area about 44 square miles. The village extends for about one and a-half miles along the north-west shore of the island. Immediately behind it is an extensive open area of water, ranging from slightly brackish to salt at the west end, where it is partly mangrove fringed. These swamps extend some distance inland and beyond them are extensive grassy flats with scattered teatree, pandanus and eucalypts. The flats were just drying out and water still lay in many places on the paths. About two miles inland is a garden area and a large well about 15 yards in diameter (no larvae were found in it). West of the village is another garden area and well. East of the village is a tidal creek fringed by a broad strip of mangrove swamp with many shallow pools, apparently unaffected by daily tides. This has to be crossed in order to reach the main garden area further east and a broad strip has been cleared through the mangroves; here the water is deeper and weedy. In the vicinity of the main garden area are extensive sedge swamps. Near the different gardens there are often small shallow wells about two feet deep and three to four feet across. Nineteen species were collected on Saibai.

Anopheles farauti.—Biting in large numbers in the village at dusk and later, also during the day amongst mangroves. Breeding in the large well at west end of the village; in small very brackish weedy pools in the mangrove swamp, and in large numbers amongst weeds in a more open portion of the same swamp; in an extensive sedge swamp; and in fresh water in an old dugout canoe in the village.

Anopheles amictus hilli.—Moderately numerous biting in the same places as *A. farauti.* Larvae in the well at west end of the village and in a small sunlit brackish pool at the edge of the swamp just behind the village.

Anopheles bancrofti.—Scarce biting.

Aedes aegypti breeding in household water containers and biting in the village.

Aedes scutellaris breeding in rot holes in mangroves (*Avicennia* sp.).

Aedes kochi biting in the village.

Aedes funereus numerous biting by day near the village and in the mangrove swamp.

Culex annulirostris.—Numerous biting near the village. Breeding in large well west of village, in open brackish water in the mangrove swamp; in a small grassy freshwater pool near gardens and in a sedge swamp.

Culex sitiens.—Biting near the village. Breeding in a small brackish pool just behind the village and in fresh water in old dugout canoes in the village.

Taeniorhynchus uniformis and *Taeniorhynchus xanthogaster.*—Biting in and near the village.

Dauan Island.—Area about three square miles. The village is about one quarter mile in length and situated along north-east shore at a distance of about six miles from Saibai village. A steep rocky hill rises immediately behind the village and a small stream runs down from it at east end of the village; no mosquitoes were found breeding in this. Only a very short time was spent ashore on Dauan and collecting was necessarily restricted.

Anopheles farauti and *Culex annulirostris* were breeding in a pool with much floating vegetable debris in a stream about one quarter mile east of the village.

(4) BAMAGA—COWAL CREEK—SOMERSET AREA.

In this area on Cape York Peninsula there are a great variety of breeding places available for mosquitoes—thirty-eight species were collected.

Anopheles farauti breeding near Bamaga in shaded jungle pools and a grass edged creek and at Cowal Creek in a teatree swamp, a dam and a small stream flowing through the village.

Anopheles annulipes breeding in a sunny pool in a creek at Bamaga and in a grassy roadside waterhole and a weedy pool in a creek bed near Red Island Point.

Anopheles meraukensis breeding in teatree swamp at Cowal Creek.

Anopheles novaguinensis breeding in shallow grassy pools, a small flowing creek, and in shaded seepage pools beside a spring, near Bamaga; in the dam and small stream in the village at Cowal Creek; in a rock well just above the beach at Somerset.

Anopheles bancrofti scarce biting in jungle. Larvae along the grassy edges of freshwater creek near Bamaga; in grassy and weedy waterholes at Red Island Point and in the teatree swamp and dam at Cowal Creek.

Anopheles powelli—Biting beside a small grassy creek in which it was breeding near Bamaga and in jungle near Somerset. These are the first records of this species biting man. Larvae in seepage pools beside a spring and in grass fringed pools of small creeks near Bamaga, and in small stream at Cowal Creek.

Aedes scutellaris scarce biting in bush at Bamaga. Breeding in treehole in jungle near Somerset.

Aedes culiciformis scarce biting in bush and in house at Bamaga.

Aedes vigilax.—Adult taken near Jacky Jacky Creek.

Culex fatigans.—Breeding in drinking vessels in pigsties at Somerset.

Culex annulirostris biting indoors at Bamaga. Larvae in grassy creek near Bamaga, weedy pool at Red Island Point and dam at Cowal Creek.

Tripteroides brevirhynchus, T. filipes and *T. subobscura* breeding in pitcher plants along creeks near Bamaga. The latter two were common biting in the jungle round Bamaga. These appear to be the only species of subgenus *Rachisoura* that occur in the area; previous records of other species were due to misidentification of inadequate material.

(5) MEDICAL IMPORTANCE OF THE SPECIES COLLECTED.

Malaria.

Anopheles farauti is an efficient and dangerous malaria vector and may be responsible for epidemics of the disease. *A. amictus hilli* is also an efficient vector. *A. annulipes* is capable of carrying malaria but has never been proved responsible for an outbreak. *A. meraukensis* is also capable of carrying it but seldom occurs in sufficient numbers to make it a potential danger. *A. bancrofti* is capable of carrying malaria and has been found to do so in nature in Dutch New Guinea. The Queensland form is not a common pest of man and therefore unlikely to play an important part in an epidemic. There is no evidence whether *A. novaguinensis* or *A. powelli* can act as vectors.

Filaria.

Culex fatigans is the chief vector of periodic filariasis. In addition, the following species have been shown to be favourable intermediate hosts to *Wuchereria bancrofti,* the causative organism of filariasis: *Anopheles farauti, A. amictus hilli, A. annulipes, A. bancrofti, Aedes kochi.*

Dengue.

Aedes aegypti and *Aedes scutellaris* can carry dengue fever.

Pest Species.—In addition to the foregoing most of which may occur at times in large numbers, the following species, though not known to be involved in disease transmission, may be a pest due to the numbers biting: *Aedes vigilax, A. funereus, A. notoscriptus, A. tremula, Culex annulirostris, C. sitiens, Taeniorhynchus uniformis, T. xanthogaster.*

A species previously considered rare, *Aedes culiciformis,* of which males and larvae were unknown, was found to be a considerable nuisance. Its breeding places were not discovered on the islands or at Bamaga. A related species in South Queensland breeds in casual rain-filled pools which would apparently be common at times in the flat valleys of the granite islands. However, near Coen, this species was found breeding in fresh water crab holes. Similar sites were not examined elsewhere and it remains to be established whether it is restricted to this larval habitat or whether this is a dry season refuge.

(6) CONCLUSIONS.

On Saibai and Boigu which, owing to their proximity to New Guinea, are most exposed to malarial infection, *Anopheles farauti,* an efficient malaria vector, occurs in large numbers. From the nature of the islands and the adaptability of the species its breeding places are so extensive and varied that it would be impracticable to attempt to control it. *A. farauti* also occurs on Dauan but the extent of its breeding places there are unknown. Control or elimination of the domestic species *Aedes aegypti* should be possible.

On Badu, Moa, and Mabuiag, mosquito borne disease does not appear to be a problem at present. In these islands *A. farauti* was found only at Gerain on Moa, where it appears that conditions at certain times would be suitable for large numbers of this species to breed close to the village. Gerain was abandoned in earlier years on account of malaria. The villagers originate from Saibai, and there is traffic between the two places. It would be quite possible, therefore, for malaria to be reintroduced to Gerain at a time when the vector was abundant, with a consequent epidemic.

It is probable that *A. farauti* occurs elsewhere on Moa. Whether control of it at Gerain would be practicable would depend partly on whether it was breeding anywhere else in the vicinity. It is quite likely that this species may occur also on Badu in areas not covered by the survey. If not, it should be possible for it to reach Badu from Moa since the islands are only two miles apart and there are small islands between them. It is less likely that *A. farauti* occurs on or could reach Mabuiag.

A. farauti also occurs in the vicinity of the settlement near Cape York, where a wide variety of breeding places are available to it, and control of the species here would probably also be impracticable.

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The Queensland Health Education Council has again been most co-operative and the work carried out by this body is a most important part of the preventive medicine of this State.

Our relations with the British Medical Association have been most cordial and their co-operation is appreciated.

By Authority: A. H. TUCKER, Government Printer, Brisbane.